



Ecological Regions of Idaho

Chapter Goals:

After completing this chapter, volunteers should be able to:

- Identify and differentiate the features of Idaho's Ecoregions and Ecological Sections
- Understand and communicate the need for different maps denoting various ecological regions of Idaho
- Explain the factors creating the great ecological diversity occurring in Idaho

Ecoregions and Ecological Sections

Idaho comprises five ecoregions: the **Canadian Rocky Mountains** in the northern part of the state, the **Middle Rockies–Blue Mountains** across the central part of the state, the **Columbia Plateau** that follows the Snake River across the state, the **Utah–Wyoming Rocky Mountains** along the southeastern boundary of the state, and the smaller **Wyoming Basins** in the southeastern corner of the state. These ecoregions are sub-divided into fourteen ecological sections: the Okanogan Highlands, Flathead Valley, Bitterroot Mountains, Blue Mountains, Idaho Batholith, Challis Volcanics, Beaverhead Mountains, Palouse Prairie, Owyhee Uplands, Snake River Basalts, Northwestern Basin and Range, Yellowstone Highlands, Overthrust Mountains and Bear Lake.



Coeur d'Alene, Idaho and Lake Coeur d'Alene.
Photo courtesy, Idaho Travel Council.

Canadian Rocky Mountains Ecoregion

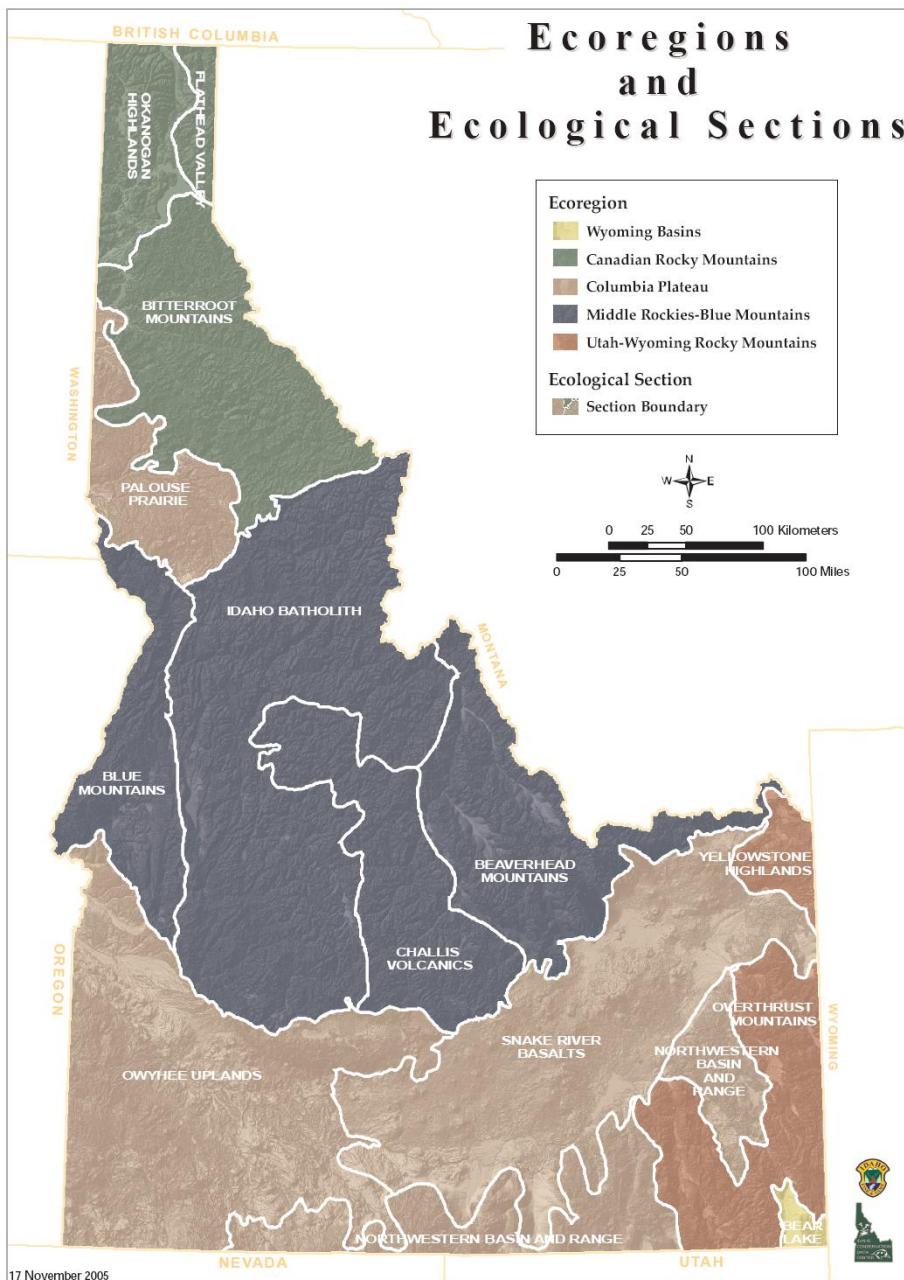
The Canadian Rocky Mountains Ecoregion extends over a large portion of the Rocky Mountains from southeastern British Columbia and southwestern Alberta to northern Idaho and northwestern Montana. The Idaho portion of this ecoregion is comprised of three ecological sections: the Okanogan Highlands, Flathead Valley, and Bitterroot Mountains. Elevation in the entire ecoregion



A young woodland Caribou.
Photo courtesy, IDFG.

ranges from 915 to 3954 m (3000 to 12,972 ft). Geologically, this ecoregion is complex, containing bedrock of sedimentary, igneous, and metamorphic origin largely characterized by steep glaciated overthrust mountains with sharp alpine ridges and cirques at higher elevations. Historic and current glaciation has sculpted the mountainous landscape filling many of the intermountain valleys with glaciofluvial deposits and moraines.

Vegetation in this ecoregion is dominated by coniferous forests with structure largely dictated by elevation. This ecoregion is best recognized for its full complement of large mammals—one of the few places left in North America that can make this claim



Middle Rockies–Blue Mountains Ecoregion

The Middle Rockies–Blue Mountains Ecoregion is characterized by a large mass of mountains and intermontane valleys covering major portions of Oregon, Idaho, and Montana and a small part of Washington. Although the Middle Rockies–Blue Mountains ecoregion is consistent in terms of broad climate, physical and biological patterns, it is remarkably diverse when viewed at finer scales. In Idaho, four ecological sections are represented in this ecoregion: the Blue Mountains, Idaho Batholith, Challis Volcanics and Beaverhead Mountains.

The relatively arid lowlands of the Columbia Plateau and Northern Great Plains Ecoregions lie to the west, south, and east, while the Canadian Rocky Mountains and Utah–Wyoming Rocky Mountains Ecoregions lie north and south along the cordillera. The ecoregion covers 81,587 square miles (52,215,958 acres) and, by comparison, is only slightly smaller than the state of Idaho. While the ecoregion is topographically diverse, it can generally be characterized as rugged. Abrupt elevational changes of 3,000 to 4,000 feet from valley floors to mountain summits are not uncommon. At the extreme is Hells Canyon of the Snake River, along the Oregon–Idaho border, where, in the deepest part, the elevation drops 8,000 feet in just four miles. The lowest elevation in the ecoregion is 790 feet, where the Snake River flows out of Hells Canyon south of Lewiston, Idaho, while the highest occurs on Borah Peak at 12,662 feet, in the Lost River Range of central Idaho (TNC 2000).



Sawtooth Mountains in central Idaho.
Photo courtesy, Idaho Travel Council.



The Pygmy rabbit, species found throughout the Columbia Plateau Ecoregion. Photo courtesy Wendy Estes-Zumpf.



Three Island Crossing State Park.
Photo courtesy, Idaho Travel Council.

Columbia Plateau Ecoregion

The Columbia Plateau Ecoregion is characterized by a broad expanse of sagebrush covered volcanic plains and valleys, punctuated by isolated mountain ranges and the dramatic river systems of the Snake, Owyhee, Boise and Columbia. Covering 301,329 km², the Columbia Plateau stretches across the sagebrush steppe of southern Idaho, connecting the Columbia Basin of eastern Washington and Oregon to the northern Great Basin of Nevada, Utah and California. State representation in the ecoregion is varied with Oregon having the largest percentage of the area at 32%, followed closely by Idaho.

Nevada and Washington have similar representations (17–18%) but California, Utah and Wyoming have only minor area within the ecoregion. Four ecological sections are represented in the Idaho portion of this ecoregion: the Palouse Prairie, Owyhee Uplands, Snake River Basalts, and Northwestern Basin and Range (Andelman et al. 1999).



Silver City historic mining town nestled in the Owyhee Mountains in SE Idaho
Photo courtesy, Idaho Travel Council.

Utah–Wyoming Rocky Mountains Ecoregion

The Utah–Wyoming Rocky Mountains Ecoregion includes the mountains just north of Yellowstone National Park in south-central Montana, the Bighorn Mountains in northeast Wyoming, the Uinta Mountains of northeast Utah and Northwest Colorado, Utah's Wasatch Range, and the mountains and valleys of the southeastern corner of Idaho, generally east of Interstate 15. Two ecological sections comprise the Idaho portion of this ecoregion: the Yellowstone Highlands and Overthrust Mountains. Embedded in this vast area is the Greater Yellowstone Ecosystem (GYE), with Yellowstone National Park as its focal point. The GYE is considered one of the last intact temperate ecosystems on Earth, and the farthest south in North America. Yellowstone is an extraordinary place containing the greatest concentration of geysers, hot springs, and other thermal features in the world. Not surprisingly, it is a World Heritage Site (Noss et al. 2001).



A fall scene near Palisades Reservoir in SE Idaho. Photo courtesy, IDFG

Wyoming Basins Ecoregion

The Wyoming Basins Ecoregion comprises 51,605 square miles (33 million acres or 13.3 million hectares) of basin, plain, desert, and “island” mountains in Wyoming, Montana, Idaho, Colorado, and Utah. Considered by Bailey (1995) as part of the Intermountain Semidesert Province, TNC scientists decided to detach the Wyoming Basins, in part because of the vegetational differences between Wyoming and points west.

Although the entire area is dominated by sagebrush species, many of which are common, the Wyoming Basins contains blue grama grass (basically a Great Plains species), which the Great Basin deserts lack. Rhizomatous grasses like western wheatgrass are more common in Wyoming than in the Great Basin desert. The separation from the Intermountain Province was also made to simplify TNC's ecoregional planning process. Unusual rock formations, sand dunes, and



A grizzly bear in a meadow.
Photo by Terry Tollefsbol, USFWS.

saltbush communities also characterize the ecoregion. Mountains rising from the basins are timbered with limber pine, Douglas fir and stands of aspen. Only one ecological section occurs in the Idaho portion of this ecoregion—Bear Lake—which is home to 4 endemic fish species including Bear Lake whitefish, Bonneville cisco, Bonneville whitefish, and Bear Lake sculpin (Freilich et al. 2001).

Canadian Rocky Mountains Ecoregion

Okanogan Highlands Ecological Section

Glacial lakes, rivers and streams are prevalent in this mountainous area. Rivers and streams are rapid flowing, particularly during spring runoff. The Pend Oreille

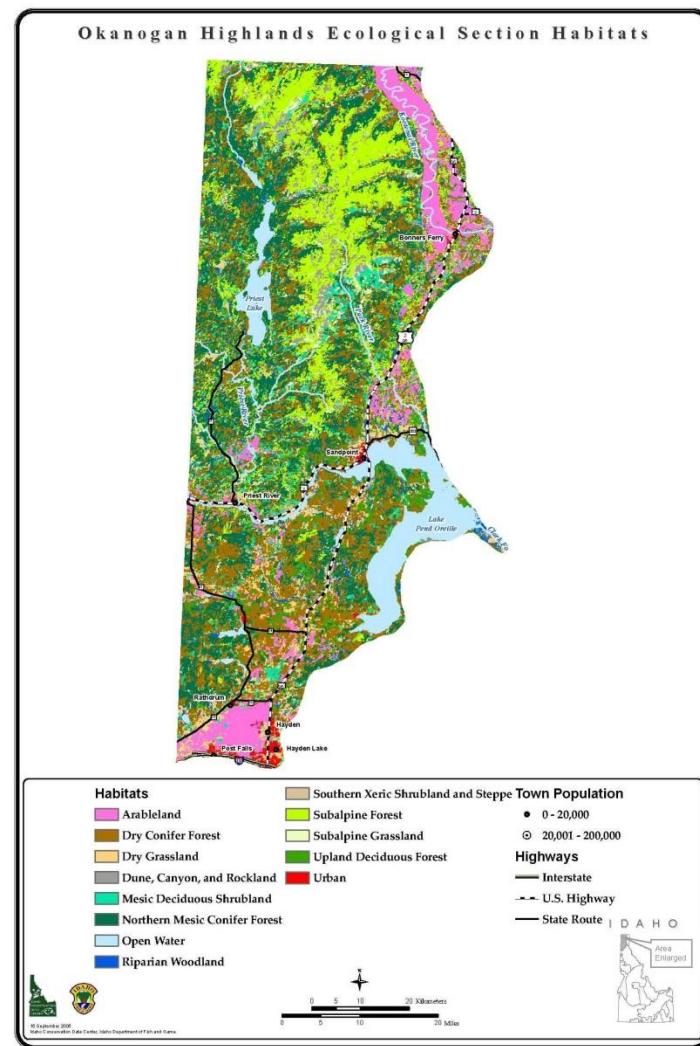
River, Pend Oreille Lake, and Priest Lake are major water bodies. Creeks are prevalent and many flow through glacial outwash and debris material within narrow valleys, and glacial lakes and wet meadows are common. Rock strata are characterized by extreme metamorphism and deformation, and deposits of glacial till, outwash, and debris cover much of the landscape.

The climate is maritime-influenced. Precipitation occurs mostly as snow. The area receives 76 to 203 cm (30–80 in) of precipitation per year. Rain or snow is common at lower elevations. June and July are wet months and the months of August through November are dry. Annual average temperature ranges from –1°–14°C (30°–58°F) with a mean temperature of 7°C (44°F).

Warmest months are late July



Bear Lake National Wildlife Refuge, in SW Idaho. Photo courtesy, Colleen Moulton, IDFG.



through August. The growing season varies with elevation, lasting 45 days at the highest elevations and up to 140 days in lower valleys.

Communities are mostly small and rural, but populations and development in some municipalities have been greatly increasing during recent years. Sandpoint, Bonners Ferry, and Post Falls are the largest population centers. Summer residences are common at lakes and large river systems. Forestry, livestock grazing, mining, and localized agriculture are principal land uses. Participation in outdoor recreation is rapidly increasing.

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	185,013	457,176	28
Timberland	394,573	975,007	59
Rangeland	39,325	97,174	6
Urban	6847	16,920	1
Water	46,506	114,919	7
Total	672,265	1,661,195	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	7250	17,915	1
USDA Forest Service	205,736	508,383	31
Open water	50,787	125,497	8
Private	299,410	739,854	45
State of Idaho	107,994	266,857	16
USDI Fish and Wildlife Service	1087	2685	<1
Total	672,263	1,661,192	100

Table 1: Okanogan Highlands Land Use and Land Ownership

Species of Greatest Conservation Need in the Okanogan Highlands

Fishes

- White Sturgeon (Kootenai River system) *Acipenser transmontanus*^a
- Lake Chub *Couesius plumbeus*^a
- Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*^a
- Inland Redband Trout *Oncorhynchus mykiss gairdneri*
- Kokanee *Oncorhynchus nerka*^a
- Pygmy Whitefish *Prosopium coulterii*^a

Bull Trout *Salvelinus confluentus*^a
Burbot *Lota lota*^a

Amphibians

Northern Leopard Frog *Rana pipiens*
Wood Frog *Rana sylvatica*^a
Coeur d'Alene Salamander *Plethodon idahoensis*

Reptiles

Northern Alligator Lizard *Elgaria coerulea*

Birds

Northern Pintail *Anas acuta*^a
Lesser Scaup *Aythya affinis*
Harlequin Duck *Histrionicus histrionicus*^a
Hooded Merganser *Lophodytes cucullatus*^a
Common Loon *Gavia immer*^a
Red-necked Grebe *Podiceps grisegena*^a
Western Grebe *Aechmophorus occidentalis*^a
Bald Eagle *Haliaeetus leucocephalus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Upland Sandpiper *Bartramia longicauda*
Long-billed Curlew *Numenius americanus*
Wilson's Phalarope *Phalaropus tricolor*
Forster's Tern *Sterna forsteri*
Black Tern *Chlidonias niger*^a
Flammulated Owl *Otus flammeolus*
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*
Lewis's Woodpecker *Melanerpes lewis*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
White-winged Crossbill *Loxia leucoptera*^a

Mammals

Pygmy Shrew *Sorex hoyi*^a
Merriam's Shrew *Sorex merriami*^a
Fringed Myotis *Myotis thysanodes*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*^a
Northern Bog Lemming *Synaptomys borealis*^a
Gray Wolf *Canis lupus*
Grizzly or Brown Bear *Ursus arctos*^a

Fisher *Martes pennanti*^a
 Wolverine *Gulo gulo*
 Canada Lynx *Lynx canadensis*
 Caribou *Rangifer tarandus*^a
 Mountain Goat *Oreamnos americanus*

Gastropods
 Sheathed Slug *Zacoleus idahoensis*

Insects
 A Stonefly *Pictetiella expansa*^a

^a Species for which the Okanogan Highlands represents a significant portion of their Idaho range.

Habitats in the Okanogan Highlands

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Urban	61	14,994	1
Arableland	483	119,467	7
Upland Deciduous Forest	304	75,197	5
Dry Conifer Forest	1648	407,175	25
Northern Mesic Conifer Forest	1410	348,217	21
Subalpine Forest	1009	249,450	15
Mesic Deciduous Shrubland	358	88,425	5
Dry Grassland	416	102,788	6
Subalpine Grassland	117	28,815	2
Open Water	514	127,023	8
Riparian Woodland	204	50,392	3
Dune, Canyon, and Rockland	199	49,259	3
Total	6723	1,661,202	100

Table 2: Okanogan Highlands Habitats

Priority Habitats and Associated Vertebrate Species in the Okanogan Highlands

Arableland

Fishes

White Sturgeon (Kootenai River system) *Acipenser transmontanus*
Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Burbot *Lota lota*

Birds

Northern Pintail *Anas acuta*
Merlin *Falco columbarius*
Long-billed Curlew *Numenius americanus*

Dry Conifer Forest

Fishes

White Sturgeon (Kootenai River system) *Acipenser transmontanus*
Lake Chub *Couesius plumbeus*
Kokanee *Oncorhynchus nerka*
Pygmy Whitefish *Prosopium coulterii*
Bull Trout *Salvelinus confluentus*

Amphibians

Northern Leopard Frog *Rana pipiens*
Wood Frog *Rana sylvatica*
Coeur d'Alene Salamander *Plethodon idahoensis*

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
Grasshopper Sparrow *Ammodramus savannarum*

Mammals

Fringed Myotis *Myotis thysanodes*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Caribou *Rangifer tarandus*
Mountain Goat *Oreamnos americanus*

Northern Mesic Conifer Forest

Fishes

White Sturgeon (Kootenai River system) *Acipenser transmontanus*
Lake Chub *Couesius plumbeus*
Kokanee *Oncorhynchus nerka*
Pygmy Whitefish *Prosopium coulterii*
Bull Trout *Salvelinus confluentus*
Burbot *Lota lota*

Amphibians

Northern Leopard Frog *Rana pipiens*
Wood Frog *Rana sylvatica*
Coeur d'Alene Salamander *Plethodon idahoensis*

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*
Pygmy Nuthatch *Sitta pygmaea*
White-winged Crossbill *Loxia leucoptera*

Mammals

Pygmy Shrew *Sorex hoyi*
Fringed Myotis *Myotis thysanodes*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Northern Bog Lemming *Synaptomys borealis*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Caribou *Rangifer tarandus*

Subalpine Forest

Fishes

Lake Chub *Couesius plumbeus*
Burbot *Lota lota*

Amphibians

Wood Frog *Rana sylvatica*

Birds

Bald Eagle *Haliaeetus leucocephalus*
Boreal Owl *Aegolius funereus*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
White-winged Crossbill *Loxia leucoptera*

Mammals

Pygmy Shrew *Sorex hoyi*
Northern Bog Lemming *Synaptomys borealis*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Caribou *Rangifer tarandus*
Mountain Goat *Oreamnos americanus*

Open Water

Fishes

Kokanee *Oncorhynchus nerka*
Pygmy Whitefish *Prosopium coulterii*
Bull Trout *Salvelinus confluentus*

Birds

Northern Pintail *Anas acuta*
Hooded Merganser *Lophodytes cucullatus*
Common Loon *Gavia immer*
Red-necked Grebe *Podiceps grisegena*
Western Grebe *Aechmophorus occidentalis*
Wilson's Phalarope *Phalaropus tricolor*
California Gull *Larus californicus*
Forster's Tern *Sterna forsteri*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*

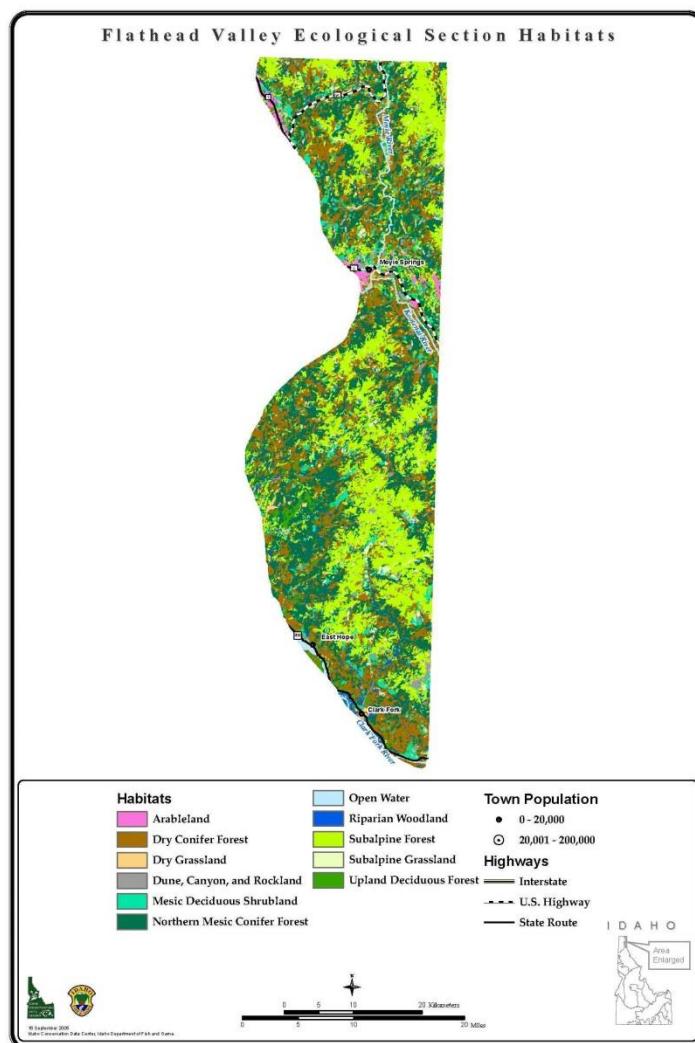
Flathead Valley Ecological Section

The Purcell and Cabinet mountains are the dominant landforms.

Perennial streams are common, as well as small lakes, bogs, and wetlands. The Kootenai River and the Clark Fork River passing through are major water bodies. Soils are generally moderately deep to deep with loamy to sandy textures. Most of the soil contains volcanic ash.

Annual precipitation ranges from 46 to over 254 cm (18 to over 100 in); most of the precipitation falls as snow. Summers tend to be dry. Climate is cool-temperate with some maritime influence. Temperature averages 2–7°C (36–45°F), and the growing season ranges from 45 to 120 days. While maritime influences create relatively mild winter conditions, influxes of arctic air are frequent.

Communities are small and sparsely distributed. Timber harvest and recreation are important land uses, and livestock grazing and farming occur in some valley areas.



LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	7,260	10,679	4
Timberland	196,039	288,382	96
Water	301	443	<1
Total	203,601	299,505	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	1,759	2,588	1
USDA Forest Service	143,115	210,528	70
Open water	1,066	1,567	1
Private	52,414	77,104	26
State of Idaho	5,320	7,826	3
Total	203,674	299,613	100

Table 3: Flathead Valley Land Use and Land Ownership

Species of Greatest Conservation Need in the Flathead Valley

Fishes

White Sturgeon (Kootenai River system) *Acipenser transmontanus*^a

Lake Chub *Couesius plumbeus*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Inland Redband Trout *Oncorhynchus mykiss gairdneri*

Kokanee *Oncorhynchus nerka*^a

Pygmy Whitefish *Prosopium coulterii*

Bull Trout *Salvelinus confluentus*^a

Burbot *Lota lota*^a

Amphibians

Northern Leopard Frog *Rana pipiens*

Wood Frog *Rana sylvatica*^a

Coeur d'Alene Salamander *Plethodon idahoensis*

Reptiles

Northern Alligator Lizard *Elgaria coerulea*

Birds

Northern Pintail *Anas acuta*

Harlequin Duck *Histrionicus histrionicus*

Hooded Merganser *Lophodytes cucullatus*

Common Loon *Gavia immer*

Red-necked Grebe *Podiceps grisegena*

Western Grebe *Aechmophorus occidentalis*

Bald Eagle *Haliaeetus leucocephalus*

Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*

Long-billed Curlew *Numenius americanus*

Flammulated Owl *Otus flammeolus*
 Boreal Owl *Aegolius funereus*
 Black Swift *Cypseloides niger*
 Lewis's Woodpecker *Melanerpes lewis*
 White-headed Woodpecker *Picoides albolarvatus*
 American Three-toed Woodpecker *Picoides dorsalis*
 Pygmy Nuthatch *Sitta pygmaea*
 White-winged Crossbill *Loxia leucoptera*^a

Mammals

Pygmy Shrew *Sorex hoyi*
 Townsend's Big-eared Bat *Corynorhinus townsendii*
 Red-tailed Chipmunk *Neotamias ruficaudus*
 Northern Bog Lemming *Synaptomys borealis*^a
 Gray Wolf *Canis lupus*
 Grizzly or Brown Bear *Ursus arctos*^a
 Fisher *Martes pennanti*
 Wolverine *Gulo gulo*
 Canada Lynx *Lynx canadensis*
 Caribou *Rangifer tarandus*^a
 Mountain Goat *Oreamnos americanus*

Gastropods

Fir Pinwheel *Radiodiscus abietum*
 Pygmy Slug *Kootenaia burkei*
 Sheathed Slug *Zacoleus idahoensis*

Insects

A Stonefly *Pictetiella expansa*^a

^a Species for which the Flathead Valley represents a significant portion of their Idaho range.

Habitats in the Flathead Valley

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Arableland	204	5029	1
Upland Deciduous Forest	620	15,323	3
Dry Conifer Forest	5223	129,055	26

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Northern Mesic Conifer Forest	6020	148,766	30
Subalpine Forest	5416	133,829	27
Mesic Deciduous Shrubland	1133	28,006	6
Dry Grassland	296	7324	1
Subalpine Grassland	364	9005	2
Open Water	95	2358	<1
Riparian Woodland	510	12,644	3
Dune, Canyon, and Rockland	478	11,804	2
Total	20,359	503,143	100

Table 4: Flathead Valley Habitats

Priority Habitats and Associated Vertebrate Species in the Flathead Valley

Dry Conifer Forest

Fishes

White Sturgeon (Kootenai River system) *Acipenser transmontanus*
 Lake Chub *Couesius plumbeus*
 Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
 Kokanee *Oncorhynchus nerka*
 Pygmy Whitefish *Prosopium coulterii*
 Bull Trout *Salvelinus confluentus*
 Burbot *Lota lota*

Amphibians

Northern Leopard Frog *Rana pipiens*
 Wood Frog *Rana sylvatica*
 Coeur d'Alene Salamander *Plethodon idahoensis*

Birds

Harlequin Duck *Histrionicus histrionicus*
 Hooded Merganser *Lophodytes cucullatus*
 Bald Eagle *Haliaeetus leucocephalus*
 Merlin *Falco columbarius*
 Peregrine Falcon *Falco peregrinus*
 Boreal Owl *Aegolius funereus*

Black Swift *Cypseloides niger*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
White-winged Crossbill *Loxia leucoptera*

Mammals

Pygmy Shrew *Sorex hoyi*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Caribou *Rangifer tarandus*
Mountain Goat *Oreamnos americanus*

Northern Mesic Conifer Forest

Fishes

White Sturgeon (Kootenai River system) *Acipenser transmontanus*
Lake Chub *Couesius plumbeus*
Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Kokanee *Oncorhynchus nerka*
Pygmy Whitefish *Prosopium coulterii*
Bull Trout *Salvelinus confluentus*
Burbot *Lota lota*

Amphibians

Northern Leopard Frog *Rana pipiens*
Wood Frog *Rana sylvatica*
Coeur d'Alene Salamander *Plethodon idahoensis*

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*
Pygmy Nuthatch *Sitta pygmaea*
White-winged Crossbill *Loxia leucoptera*

Mammals

Pygmy Shrew *Sorex hoyi*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Northern Bog Lemming *Synaptomys borealis*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*

Subalpine Forest

Fishes

White Sturgeon (Kootenai River system) *Acipenser transmontanus*
Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Kokanee *Oncorhynchus nerka*
Bull Trout *Salvelinus confluentus*
Burbot *Lota lota*

Amphibians

Wood Frog *Rana sylvatica*

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*
White-headed Woodpecker *Picoides albolarvatus*
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Mammals

Pygmy Shrew *Sorex hoyi*
Red-tailed Chipmunk *Neotamias ruficaudus*
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Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*

Mountain Goat *Oreamnos americanus*

Mesic Deciduous Shrubland

Birds

Merlin *Falco columbarius*

Upland Sandpiper *Bartramia longicauda*

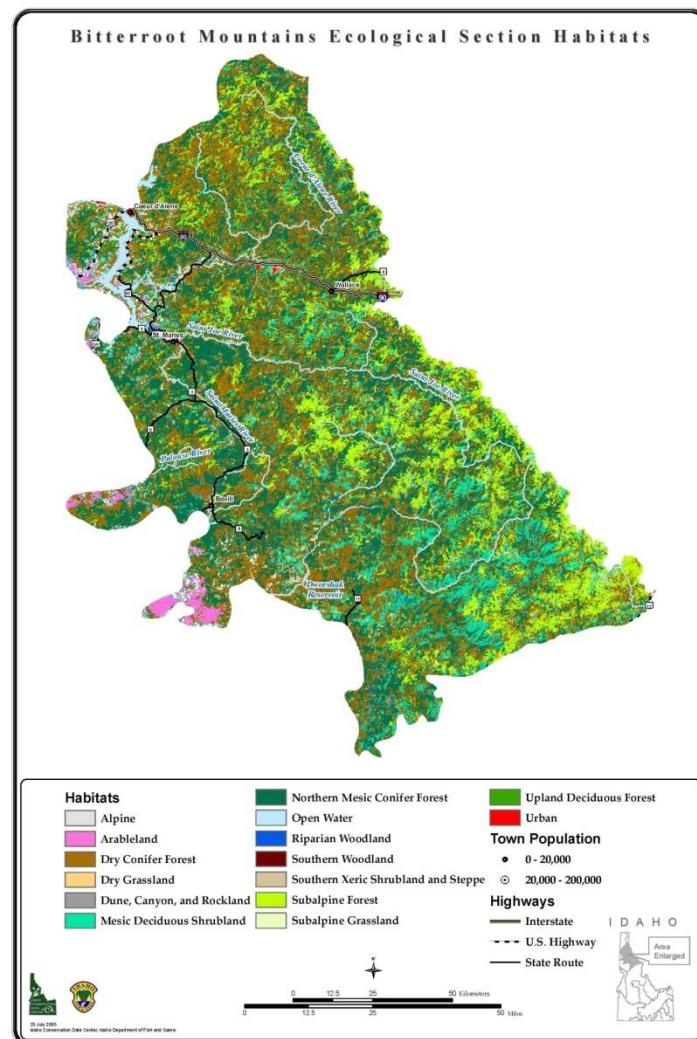
Bitterroot Mountains

Ecological Section

This area comprises steep, dissected mountains with sharp crests and narrow valleys.

Elevation ranges from 366–2135 m (1200–7000 ft). Soil is shallow to moderately deep with loamy to sandy textures and usually contains volcanic ash. Perennial streams are generally fairly steep and deeply incised. Major rivers include the Coeur d'Alene, St. Maries, St. Joe and Clearwater.

Annual precipitation averages 102–203 cm (40–80 in). Most precipitation falls as snow and summers are relatively dry. Annual average temperature ranges from 2–7°C (36–45°F). Climate is maritime-influenced, having cool and moist overall conditions, with relatively mild winters and drier summers. The growing season varies with elevation and ranges from 45 to 100 days.



Communities are generally small and many are situated along major water bodies. Coeur d'Alene is the major population center. Mining, timber harvest, and recreation are dominant land uses, and livestock grazing is locally important.

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	108,962	269,249	6
Timberland	1,584,989	3,916,578	84
Rangeland	148,423	366,759	8
Riparian	15,714	38,829	1
Urban	10,340	25,551	1
Water	19,512	48,215	1
Total	1,887,939	4,665,181	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	39,526	97,671	2
USDI Bureau of Indian Affairs	5659	13,983	<1
USDA Forest Service	1,103,911	2,727,812	58
US Department of Defense	5810	14,357	<1
USDI National Park Service	401	991	<1
Open water	21,611	53,401	1
Private	578,316	1,429,045	31
State of Idaho	132,707	327,926	7
Total	1,887,941	4,665,186	100

Table 5: Bitterroot Mountains land use and land ownership

Species of Greatest Conservation Need in the Bitterroot Mountains

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*^a

Inland Redband Trout *Oncorhynchus mykiss gairdneri*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*

Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Pygmy Whitefish *Prosopium coulterii*
Bull Trout *Salvelinus confluentus*^a

Amphibians

Northern Leopard Frog *Rana pipiens*
Idaho Giant Salamander *Dicamptodon aterrimus*^a
Coeur d'Alene Salamander *Plethodon idahoensis*^a

Reptiles

Northern Alligator Lizard *Elgaria coerulea*
Ring-necked Snake *Diadophis punctatus*

Birds

Northern Pintail *Anas acuta*
Harlequin Duck *Histrionicus histrionicus*^a
Hooded Merganser *Lophodytes cucullatus*^a
Mountain Quail *Oreortyx pictus*
Red-necked Grebe *Podiceps grisegena*^a
Western Grebe *Aechmophorus occidentalis*
Bald Eagle *Haliaeetus leucocephalus*^a
Swainson's Hawk *Buteo swainsoni*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Upland Sandpiper *Bartramia longicauda*
Long-billed Curlew *Numenius americanus*
Wilson's Phalarope *Phalaropus tricolor*
California Gull *Larus californicus*
Black Tern *Chlidonias niger*
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*^a
Lewis's Woodpecker *Melanerpes lewis*
White-headed Woodpecker *Picoides albolarvatus*^a
American Three-toed Woodpecker *Picoides dorsalis*^a
Pygmy Nuthatch *Sitta pygmaea*
White-winged Crossbill *Loxia leucoptera*^a

Mammals

Pygmy Shrew *Sorex hoyi*
California Myotis *Myotis californicus*^a

Fringed Myotis *Myotis thysanodes*^a
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*^a
Gray Wolf *Canis lupus*^a
Fisher *Martes pennanti*^a
Wolverine *Gulo gulo*^a
Canada Lynx *Lynx canadensis*^a
Mountain Goat *Oreamnos americanus*

Bivalves

Western Pearlshell *Margaritifera falcata*

Gastropods

Fir Pinwheel *Radiodiscus abietum*
Pygmy Slug *Kootenaia burkei*^a
Pale Jumping-slug *Hemphillia camelus*
Magnum Mantleslug *Magnipelta mycophaga*^a
Smoky Taildropper *Prophysaon humile*^a
Sheathed Slug *Zacoleus idahoensis*
Lyre Mantleslug *Udosarx lyrata*^a
Thinlip Tightcoil *Pristiloma idahoense*
An Oregonian *Cryptomastix mullani blandi*^a
An Oregonian (Lower Clearwater River) *Cryptomastix mullani tuckeri*
Kingston Oregonian *Cryptomastix sanburni*^a
Humped Coin *Polygyrella polygyrella*

Insects

A Mayfly *Caurinella idahoensis*
A Mayfly *Ameletus suffusus*^a
A Mayfly *Ameletus tolae*^a
A Mayfly *Paraleptophlebia vaciva*
A Spur-throat Grasshopper *Melanoplus digitifer*
A Stonefly *Capnia zukeli*
A Stonefly *Megaleuctra kincaidi*^a
A Stonefly *Taenionema umatilla*^a
A Spring Stonefly *Cascadoperla trictura*^a
A Stonefly *Pictetiella expansa*
Gillette's Checkerspot *Euphydryas gillettii*

^a Species for which the Bitterroot Mountains represents a significant portion of their Idaho range.

Habitats in the Bitterroot Mountains

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Urban	36	8989	<1
Arableland	214	52,779	1
Upland Deciduous Forest	148	36,570	1
Dry Conifer Forest	6726	1,661,921	36
Northern Mesic Conifer Forest	6054	1,496,152	32
Subalpine Forest	2281	563,700	12
Mesic Deciduous Shrubland	1824	450,598	10
Dry Grassland	280	69,092	1
Palouse Prairie	258	63,751	1
Subalpine Grassland	237	58,499	1
Open Water	217	53,582	1
Riparian Woodland	418	103,197	2
Dune, Canyon, and Rockland	183	45,223	1
Total	18,876	4,664,053	100

Table 6: Bitterroot Mountains Habitat

Priority Habitats and Associated Vertebrate Species in the Bitterroot Mountains

Dry Conifer Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Pygmy Whitefish *Prosopium coulterii*

Bull Trout *Salvelinus confluentus*

Amphibians

Northern Leopard Frog *Rana pipiens*

Idaho Giant Salamander *Dicamptodon aterrimus*
Coeur d'Alene Salamander *Plethodon idahoensis*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Harlequin Duck *Histrionicus histrionicus*
Mountain Quail *Oreortyx pictus*
Bald Eagle *Haliaeetus leucocephalus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
White-winged Crossbill *Loxia leucoptera*

Mammals

Pygmy Shrew *Sorex hoyi*
Fringed Myotis *Myotis thysanodes*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Northern Mesic Conifer Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*
Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*
Pygmy Whitefish *Prosopium coulterii*

Bull Trout *Salvelinus confluentus*

Amphibians

Northern Leopard Frog *Rana pipiens*
Idaho Giant Salamander *Dicamptodon aterrimus*
Coeur d'Alene Salamander *Plethodon idahoensis*

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*
Pygmy Nuthatch *Sitta pygmaea*
White-winged Crossbill *Loxia leucoptera*

Mammals

Pygmy Shrew *Sorex hoyi*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*

Subalpine Forest

Fishes

Pygmy Whitefish *Prosopium coulterii*

Amphibians

Northern Leopard Frog *Rana pipiens*
Idaho Giant Salamander *Dicamptodon aterrimus*

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*

Black Swift *Cypseloides niger*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*

Mammals

Pygmy Shrew *Sorex hoyi*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Mesic Deciduous Shrubland

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*
Bull Trout *Salvelinus confluentus*

Amphibians

Coeur d'Alene Salamander *Plethodon idahoensis*

Birds

Mountain Quail *Oreortyx pictus*
Merlin *Falco columbarius*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendi*
Gray Wolf *Canis lupus*

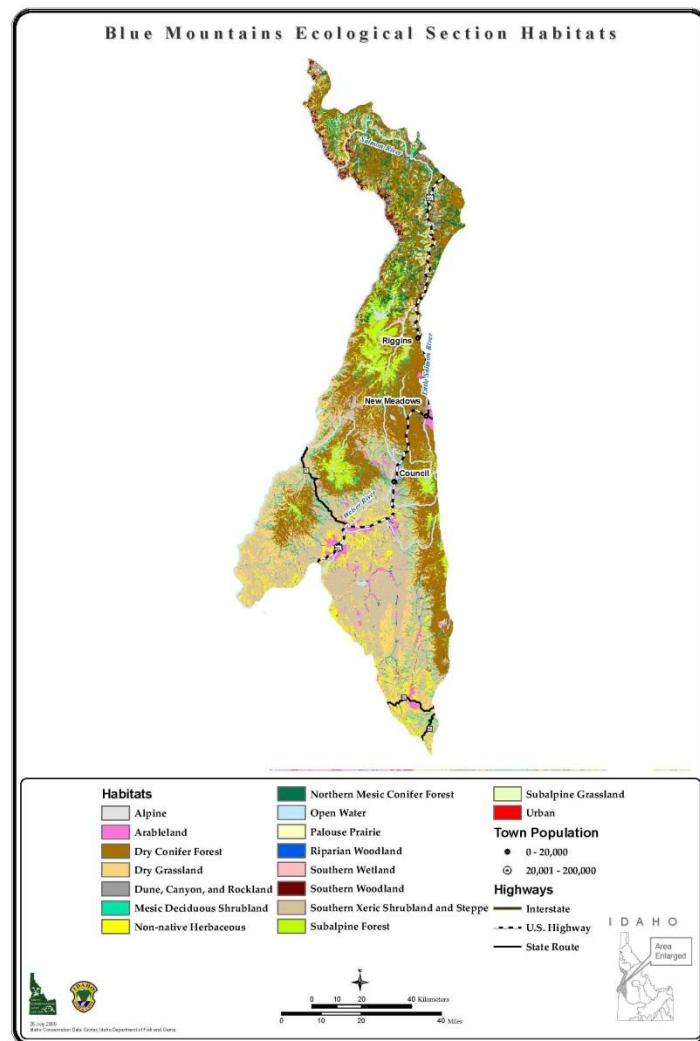
Middle Rockies-Blue Mountain Ecoregion

Blue Mountains Ecological Section

Hells Canyon of the Snake River is a major feature on this landscape. A wide, uplifted plateau occurs in the western portion and mountains characterize the eastern portion. In addition to the Snake River, water bodies include the lower reaches of the Salmon River, portions of the Payette and Weiser Rivers, numerous streams, as well as several reservoirs, springs, and alpine lakes. Elevation ranges from 225 to 3100 m (750–9400 ft). Most of the mountains are 1200–2300 m (4000–7500 ft) in elevation. Soil often contains volcanic ash. An ash mantle is relatively undisturbed on gentle north slopes under forest canopies but on southerly exposures the ash has been mostly removed by erosion.

Annual average precipitation is 23–46 cm (9–18 in) in the valleys and 43 to 254 cm (17 to 100 in) in the mountains. Annual average temperature ranges from –2–11°C (28–52°F). The growing season varies considerably with elevation and lasts for 30–130 days.

Human settlements are small and scattered, occurring primarily in valleys along rivers. Mining, timber harvest, agriculture, livestock grazing, and recreation are primary land uses.



LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	7277	17,983	1
Irrigated-Gravity Flow	25,961	64,151	2

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Irrigated–Sprinkler	7466	18,448	1
Rangeland	575,112	1,421,127	53
Riparian	459	1134	<1
Timberland	432,504	1,068,735	40
Urban	427	1054	<1
Water	1883	4653	<1
Wilderness	35,550	87,846	3
Total	1,086,639	2,685,133	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	158,024	390,484	15
USDI Bureau of Reclamation	674	1665	<1
USDA Forest Service	350,761	866,747	32
US Department of Defense	37	91	0
USDI National Park Service	775	1915	<1
Open water	5664	13,997	1
Private	499,496	1,234,277	46
State of Idaho	70,952	175,326	7
Total	1,086,383	2,684,501	100

Table 7: Blue Mountains Land Use and Land Ownership

Species of Greatest Conservation Need in the Blue Mountains

Lampreys

Pacific Lamprey *Lampetra tridentata*^a

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*^a

Leopard Dace *Rhinichthys falcatus*

Umatilla Dace *Rhinichthys umatilla*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Inland Redband Trout *Oncorhynchus mykiss gairdneri*^a

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*^a
Sockeye Salmon (Snake River) *Oncorhynchus nerka*^a
Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*^a
Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*^a
Bull Trout *Salvelinus confluentus*^a
Sand Roller *Percopsis transmontana*^a

Amphibians

Woodhouse's Toad *Bufo woodhousii*
Northern Leopard Frog *Rana pipiens*
Idaho Giant Salamander *Dicamptodon aterrimus*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Northern Pintail *Anas acuta*
Lesser Scaup *Aythya affinis*
Hooded Merganser *Lophodytes cucullatus*
Greater Sage-Grouse *Centrocercus urophasianus*
Sharp-tailed Grouse *Tympanuchus phasianellus*^a
Mountain Quail *Oreortyx pictus*^a
Western Grebe *Aechmophorus occidentalis*
Clark's Grebe *Aechmophorus clarkii*
Black-crowned Night-Heron *Nycticorax nycticorax*
Bald Eagle *Haliaeetus leucocephalus*
Swainson's Hawk *Buteo swainsoni*
Ferruginous Hawk *Buteo regalis*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Sandhill Crane *Grus canadensis*
American Avocet *Recurvirostra americana*
Upland Sandpiper *Bartramia longicauda*^a
Long-billed Curlew *Numenius americanus*
California Gull *Larus californicus*
Caspian Tern *Sterna caspia*
Flammulated Owl *Otus flammeolus*
Burrowing Owl *Athene cunicularia*
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*

Lewis's Woodpecker *Melanerpes lewis*
White-headed Woodpecker *Picoides albolarvatus*^a
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*^a
Grasshopper Sparrow *Ammodramus savannarum*
Black Rosy-Finch *Leucosticte atrata*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Dwarf Shrew *Sorex nanus*
Coast Mole *Scapanus orarius*^a
California Myotis *Myotis californicus*^a
Fringed Myotis *Myotis thysanodes*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Northern Idaho Ground Squirrel *Spermophilus brunneus brunneus*^a
Southern Idaho Ground Squirrel *Spermophilus brunneus endemicus*^a
Great Basin Ground Squirrel *Spermophilus mollis*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Bivalves

Western Ridged Mussel *Gonidea angulata*^a
Western Pearlshell *Margaritifera falcata*

Gastropods

Pixie Pebblesnail *Fluminicola minutissimus*^a
Pristine Pyrg *Pristinicola hemphilli*^a
Shortspire Pondsail *Stagnicola idahoensis*^a
Mountain Marshsnail *Stagnicola montanensis*
Shortface Lanx *Fisherola nuttalli*^a
Western Flat-whorl *Planogyra clappi*^a
Fir Pinwheel *Radiodiscus abietum*
Salmon Coil *Helicodiscus salmonaceus*^a
Marbled Disc *Discus marmorensis*^a
Pale Jumping-slug *Hemphillia camelus*

Sheathed Slug *Zacoleus idahoensis*
 Thinlip Tightcoil *Pristiloma idahoense*
 Shiny Tightcoil *Pristiloma wascoense*
 Selway Forestsnail *Allogona lombardii*
 Dry Land Forestsnail *Allogona ptychophora solida*^a
 River of No Return Oregonian *Cryptomastix mullani clappi*^a
 An Oregonian (Lower Salmon River) *Cryptomastix mullani latilabris*
 Salmon Oregonian *Cryptomastix harfordiana*^a
 An Oregonian (Hells Canyon) *Cryptomastix populi*^a
 Humped Coin *Polygyrella polygyrella*
 Lyrate Mountainsnail *Oreohelix haydeni*^a
 Costate Mountainsnail *Oreohelix idahoensis*^a
 Deep Slide Mountainsnail *Oreohelix intersum*^a
 Boulder Pile Mountainsnail *Oreohelix jugalis*^a
 Striate Mountainsnail *Oreohelix strigosa goniogryra*^a
 Whorled Mountainsnail *Oreohelix vortex*^a
 Lava Rock Mountainsnail *Oreohelix waltoni*^a
 Seven Devils Mountainsnail *Oreohelix hammeri*^a

Insects

A Mayfly *Ametropus ammophilus*
 A Spur-throat Grasshopper *Melanoplus daemon*^a
 A Spur-throat Grasshopper *Melanoplus digitifer*
 A Spur-throat Grasshopper *Melanoplus payettei*^a
 A Stonefly *Utacapnia nedia*
 A Spring Stonefly *Malenka tina*
 Columbia River Tiger Beetle *Cicindela columbica*^a

^a Species for which the Blue Mountains represents a significant portion of their Idaho range.

Habitats in the Blue Mountains

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Arableland	383	94,724	4
Non-native Herbaceous	618	152,740	6
Southern Woodland	122	30,196	1
Dry Conifer Forest	3472	858,204	32
Northern Mesic Conifer Forest	387	95,648	4

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Subalpine Forest	559	138,013	5
Mesic Deciduous Shrubland	438	108,185	4
Southern Xeric Shrubland and Steppe	2730	674,400	25
Dry Grassland	1273	314,520	12
Palouse Prairie	6	1552	<1
Subalpine Grassland	226	55,675	2
Alpine	34	8270	<1
Open Water	86	21,210	1
Riparian Woodland	222	55,138	2
Dune, Canyon, and Rockland	209	51,638	2
Total	10,765	2,660,113	100

Table 8: Blue Mountain Habitats

Priority Habitats and Associated Vertebrate Species in the Blue Mountains

Non-native Herbaceous

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Sharp-tailed Grouse *Tympanuchus phasianellus*

Upland Sandpiper *Bartramia longicauda*

Long-billed Curlew *Numenius americanus*

Burrowing Owl *Athene cunicularia*

Mammals

Merriam's Shrew *Sorex merriami*

California Myotis *Myotis californicus*

Dry Conifer Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*
Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Inland Redband Trout *Oncorhynchus mykiss gairdneri*
Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*
Sockeye Salmon (Snake River) *Oncorhynchus nerka*
Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*
Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*
Bull Trout *Salvelinus confluentus*

Amphibians

Idaho Giant Salamander *Dicamptodon aterrimus*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Mountain Quail *Oreortyx pictus*
Bald Eagle *Haliaeetus leucocephalus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Coast Mole *Scapanus orarius*
Fringed Myotis *Myotis thysanodes*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Northern Idaho Ground Squirrel *Spermophilus brunneus brunneus*
Southern Idaho Ground Squirrel *Spermophilus brunneus endemicus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Southern Xeric Shrubland and Steppe

Fishes

Inland Redband Trout *Oncorhynchus mykiss gairdneri*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Greater Sage-Grouse *Centrocercus urophasianus*

Sharp-tailed Grouse *Tympanuchus phasianellus*

Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*

Long-billed Curlew *Numenius americanus*

Burrowing Owl *Athene cunicularia*

Grasshopper Sparrow *Ammodramus savannarum*

Mammals

Merriam's Shrew *Sorex merriami*

California Myotis *Myotis californicus*

Townsend's Big-eared Bat *Corynorhinus townsendii*

Pygmy Rabbit *Brachylagus idahoensis* [trivially]

Great Basin Ground Squirrel *Spermophilus mollis*

Dry Grassland

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*

Inland Redband Trout *Oncorhynchus mykiss gairdneri*

Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*

Bull Trout *Salvelinus confluentus*

Amphibians

Northern Leopard Frog *Rana pipiens*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Northern Pintail *Anas acuta*

Mountain Quail *Oreortyx pictus*
 Merlin *Falco columbarius*
 Upland Sandpiper *Bartramia longicauda*
 Long-billed Curlew *Numenius americanus*
 Burrowing Owl *Athene cunicularia*
 Grasshopper Sparrow *Ammodramus savannarum*

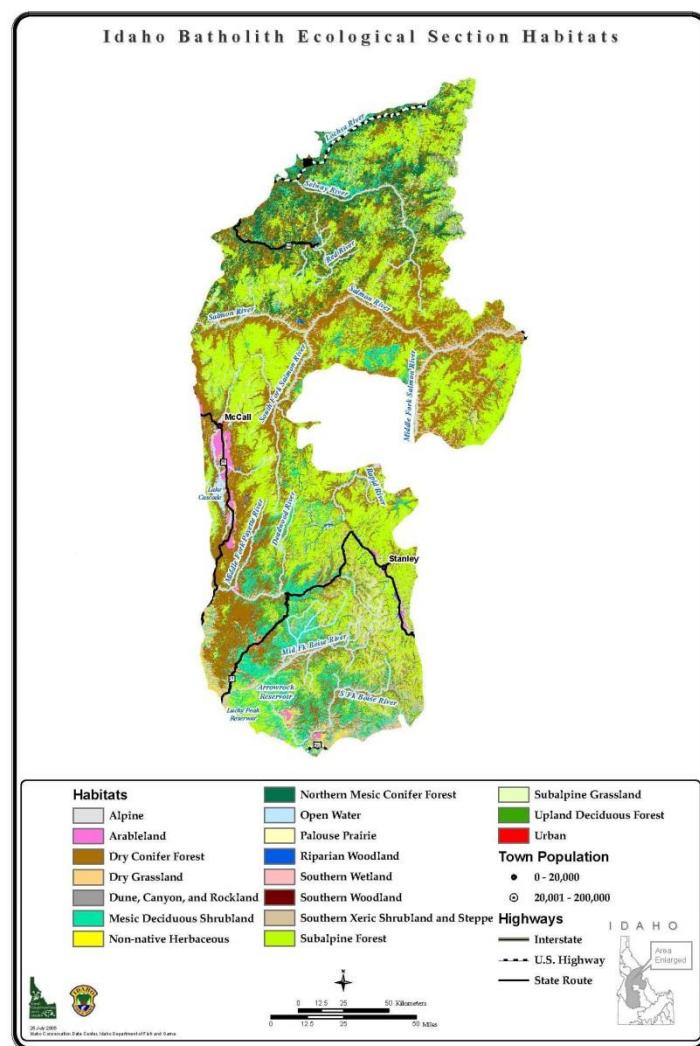
Mammals

Merriam's Shrew *Sorex merriami*
 California Myotis *Myotis californicus*
 Fringed Myotis *Myotis thysanodes*
 Gray Wolf *Canis lupus*

Idaho Batholith Ecological Section

This area is characterized by extensive mountainous terrain; alpine ridges, cirques, and large U-shaped valleys with broad bottoms and other features of glacial origins dominate many areas such as the Sawtooth Mountains. Water bodies are predominant including major portions of the Salmon, Clearwater, Payette, and Boise rivers. Many perennial streams and lakes are present, as well as a number of reservoirs. Elevation ranges from 425 to 3400 m (1400 to 11,000 ft). Soils are generally shallow to moderately deep loam and sand. Volcanic ash accumulations in some soils have caused them to be especially productive.

Annual precipitation ranges from 51–203 cm (20–80 in) much of which falls as snow during the fall, winter, and spring. Climate is maritime-influenced with cool



temperate weather and dry summers. Average annual temperature ranges from 2–7°C (35–46°F) but may be as low as –4°C (24°F) in the high mountains. The growing season lasts 45–100 days.

The northern portion of the section is primarily wilderness, with few small communities. Communities in southern areas are typically small and concentrated along rivers. Larger towns, such as Stanley and McCall are the focus of tourism and recreation. Timber harvest and recreation are dominant land uses, with livestock grazing and mining of local importance.

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	3045	7525	<1
Irrigated–Gravity Flow	48,237	119,195	1
Irrigated–Sprinkler	7253	17,921	<1
Rangeland	342,721	846,879	8
Riparian	14,258	35,232	<1
Timberland	2,400,513	5,931,774	59
Urban	469	1158	<1
Water	13,162	32,524	<1
Wilderness	1,226,135	3,029,833	30
Total	4,055,792	10,022,041	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	52,123	128,797	1
USDI Bureau of Reclamation	16,720	41,316	<1
USDA Forest Service	3,564,471	8,807,965	88
US Department of Defense	263	650	<1
Open water	24,682	60,989	1
Private	302,986	748,693	7
State of Idaho	94,548	233,632	2
Total	4,055,793	10,022,043	100

Table 9: Idaho Batholith Land Use and Land Ownership.

Species of Greatest Conservation Need in the Idaho Batholith

Lampreys

Pacific Lamprey *Lampetra tridentata*^a

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*

Leopard Dace *Rhinichthys falcatus*

Umatilla Dace *Rhinichthys umatilla*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*^a

Inland Redband Trout *Oncorhynchus mykiss gairdneri*^a

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*^a

Sockeye Salmon (Snake River) *Oncorhynchus nerka*^a

Kokanee *Oncorhynchus nerka*^a

Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*^a

Bull Trout *Salvelinus confluentus*^a

Wood River Sculpin *Cottus leiopomus*

Amphibians

Woodhouse's Toad *Bufo woodhousii*

Northern Leopard Frog *Rana pipiens*

Idaho Giant Salamander *Dicamptodon aterrimus*^a

Coeur d'Alene Salamander *Plethodon idahoensis*^a

Reptiles

Ring-necked Snake *Diadophis punctatus*

Long-nosed Snake *Rhinocheilus lecontei*

Birds

Northern Pintail *Anas acuta*

Lesser Scaup *Aythya affinis*

Harlequin Duck *Histrionicus histrionicus*^a

Greater Sage-Grouse *Centrocercus urophasianus*

Sharp-tailed Grouse *Tympanuchus phasianellus*

Mountain Quail *Oreortyx pictus*^a

Red-necked Grebe *Podiceps grisegena*

Western Grebe *Aechmophorus occidentalis*^a

Clark's Grebe *Aechmophorus clarkii*^a

American White Pelican *Pelecanus erythrorhynchos*

Great Egret *Ardea alba*
Black-crowned Night-Heron *Nycticorax nycticorax*
Bald Eagle *Haliaeetus leucocephalus*^a
Swainson's Hawk *Buteo swainsoni*
Ferruginous Hawk *Buteo regalis*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*^a
Sandhill Crane *Grus canadensis*
American Avocet *Recurvirostra americana*
Upland Sandpiper *Bartramia longicauda*^a
Long-billed Curlew *Numenius americanus*
Franklin's Gull *Larus pipixcan*
California Gull *Larus californicus*
Caspian Tern *Sterna caspia*
Flammulated Owl *Otus flammeolus*
Burrowing Owl *Athene cunicularia*
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*^a
Lewis's Woodpecker *Melanerpes lewis*
White-headed Woodpecker *Picoides albolarvatus*^a
American Three-toed Woodpecker *Picoides dorsalis*^a
Pygmy Nuthatch *Sitta pygmaea*^a
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*
Black Rosy-Finch *Leucosticte atrata*^a
Lesser Goldfinch *Carduelis psaltria*^a

Mammals

Pygmy Shrew *Sorex hoyi*
Merriam's Shrew *Sorex merriami*
Dwarf Shrew *Sorex nanus*^a
Coast Mole *Scapanus orarius*
Fringed Myotis *Myotis thysanodes*^a
Spotted Bat *Euderma maculatum*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Red-tailed Chipmunk *Neotamias ruficaudus*^a
Northern Idaho Ground Squirrel *Spermophilus brunneus brunneus*^a
Townsend's Pocket Gopher *Thomomys townsendii*
Gray Wolf *Canis lupus*^a

Kit Fox *Vulpes macrotis*
Fisher *Martes pennanti*^a
Wolverine *Gulo gulo*^a
Canada Lynx *Lynx Canadensis*^a
Mountain Goat *Oreamnos americanus*^a

Bivalves

Western Pearlshell *Margaritifera falcata*

Gastropods

Pristine Pyrg *Pristinicola hemphilli*
Shortface Lanx *Fisherola nuttalli*
Idaho Vertigo *Vertigo idahoensis*^a
Fir Pinwheel *Radiodiscus abietum*
Salmon Coil *Helicodiscus salmonaceus*
Nimapuna Tigersnail *Anguispira nimapuna*^a
Marbled Disc *Discus marmorensis*
Pale Jumping-slug *Hemphillia camelus*
Sheathed Slug *Zacoleus idahoensis*
Thinlip Tightcoil *Pristiloma idahoense*
Shiny Tightcoil *Pristiloma wascoense*
Selway Forestsnail *Allogona lombardii*^a
River of No Return Oregonian *Cryptomastix mullani clappi*^a
An Oregonian (Lower Salmon River) *Cryptomastix mullani latilabris*
Humped Coin *Polygyrella polygyrella*^a
Boulder Pile Mountainsnail *Oreohelix jugalis*
Striate Mountainsnail *Oreohelix strigosa goniogryra*

Crustaceans

Idaho Amphipod *Stygobromus idahoensis*^a

Insects

A Mayfly *Caurinella idahoensis*^a
A Mayfly *Ameletus sparsatus*^a
A Mayfly *Ametropus ammophilus*^a
A Mayfly *Paraleptophlebia vaciva*^a
A Mayfly *Parameletus columiae*
A Spur-throat Grasshopper *Melanoplus digitifer*
A Spur-throat Grasshopper *Melanoplus papyraedus*^a
A Spur-throat Grasshopper *Melanoplus payettei*

- A Grasshopper *Argiacris keithi*^a
A Grasshopper *Argiacris militaris*^a
A Grasshopper *Barracris petraea*
A Stonefly *Soyedina potteri*^a
A Stonefly *Zapada cordillera*^a
Gillette's Checkerspot *Euphydryas gillettii*

^a Species for which the Idaho Batholith represents a significant portion of their range.

Habitats in the Idaho Batholith

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Urban	27	6710	<1
Arableland	389	96,133	1
Non-native Herbaceous	214	52,790	1
Upland Deciduous Forest	307	75,936	1
Southern Woodland	22	5432	<1
Dry Conifer Forest	12,831	3,170,525	32
Northern Mesic Conifer Forest	2430	600,516	6
Subalpine Forest	13,796	3,409,015	34
Mesic Deciduous Shrubland	3893	961,894	10
Southern Xeric Shrubland and Steppe	3052	754,066	8
Dry Grassland	774	191,309	2
Subalpine Grassland	963	238,143	2
Alpine	287	70,905	1
Open Water	233	57,598	1
Riparian Woodland	804	198,901	2
Dune, Canyon, and Rockland	419	103,524	1
Total	40,441	9,993,397	100

Table 10: Idaho Batholith Habitats

Priority Habitats and Associated Vertebrate Species in the Idaho Batholith

Dry Conifer Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*

Leopard Dace *Rhinichthys falcatus*

Umatilla Dace *Rhinichthys umatilla*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Inland Redband Trout *Oncorhynchus mykiss gairdneri*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*

Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Kokanee *Oncorhynchus nerka*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Bull Trout *Salvelinus confluentus*

Amphibians

Northern Leopard Frog *Rana pipiens*

Idaho Giant Salamander *Dicamptodon aterrimus*

Coeur d'Alene Salamander *Plethodon idahoensis*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Harlequin Duck *Histrionicus histrionicus*

Mountain Quail *Oreortyx pictus*

Bald Eagle *Haliaeetus leucocephalus*

Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*

Boreal Owl *Aegolius funereus*

White-headed Woodpecker *Picoides albolarvatus*

American Three-toed Woodpecker *Picoides dorsalis*

Pygmy Nuthatch *Sitta pygmaea*

Lesser Goldfinch *Carduelis psaltria*

Mammals

Pygmy Shrew *Sorex hoyi*

Fringed Myotis *Myotis thysanodes*
Spotted Bat *Euderma maculatum*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Northern Idaho Ground Squirrel *Spermophilus brunneus brunneus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Northern Mesic Conifer Forest

Amphibians

Northern Leopard Frog *Rana pipiens*
Idaho Giant Salamander *Dicamptodon aterrimus*
Coeur d'Alene Salamander *Plethodon idahoensis*

Birds

Harlequin Duck *Histrionicus histrionicus*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Red-tailed Chipmunk *Neotamias ruficaudus*

Subalpine Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*
Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*
Sockeye Salmon (Snake River) *Oncorhynchus nerka*
Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*
Bull Trout *Salvelinus confluentus*

Amphibians

Northern Leopard Frog *Rana pipiens*
Idaho Giant Salamander *Dicamptodon aterrimus*

Birds

Harlequin Duck *Histrionicus histrionicus*

Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*

Mammals

Pygmy Shrew *Sorex hoyi*
Dwarf Shrew *Sorex nanus*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Mesic Deciduous Shrubland

Fishes

Leopard Dace *Rhinichthys falcatus*
Umatilla Dace *Rhinichthys umatilla*
Wood River Sculpin *Cottus leiopomus*

Amphibians

Northern Leopard Frog *Rana pipiens*
Coeur d'Alene Salamander *Plethodon idahoensis*

Birds

Sharp-tailed Grouse *Tympanuchus phasianellus*
Mountain Quail *Oreortyx pictus*
Ferruginous Hawk *Buteo regalis*
Merlin *Falco columbarius*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Red-tailed Chipmunk *Neotamias ruficaudus*

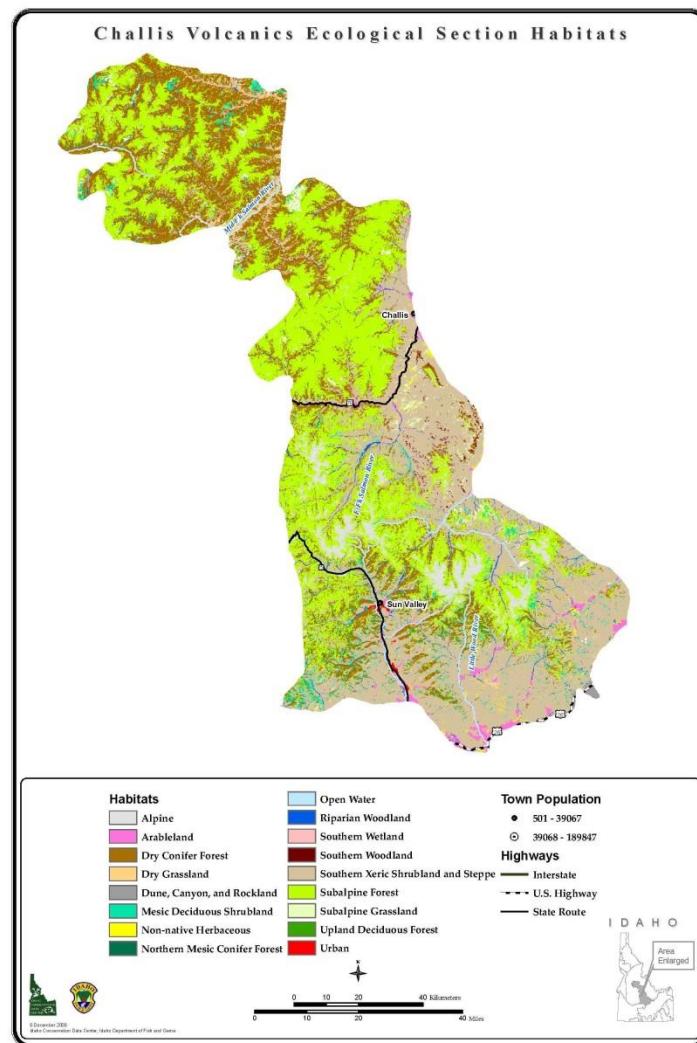
Challis Volcanics Ecological Section

This section is dominated by mountain ranges, including the White Cloud Peaks, Pioneer Mountains, Smoky Mountains, Boulder Mountains, White Knob Mountains and portions of the Salmon River Range. There are some glaciated areas. Major water bodies include the Wood River, Big Lost River, Salmon River, many perennial streams and alpine lakes exist. Elevation ranges from 1200–3600 m (4000–11,800 ft).

Climate is influenced by prevailing winds from the west and the general north–south orientation of the mountain ranges. Precipitation ranges from 25–120 cm (10 to 45 in) annually with an average of 56 cm (22 in). The majority of the precipitation occurs during the fall, winter and spring. A rain shadow effect from the high mountain barriers to the west reduces

precipitation in this section. Summers are dry with low humidity. Much of the precipitation that falls at lower elevations during summer months evaporates. The average annual air temperature is 3–10°C (34 to 50°F) but may be as low as –4°C (24°F) in the high mountains. The growing season ranges from 70 to 120 days.

Approximately half of the land is forested and major land uses are timber harvest, livestock grazing, and recreation. Mining for gold and silver is also an important use. The Wood River Valley, including Ketchum, Hailey, and Bellevue, is the population center. Development in this scenic valley has been rapid and extensive during recent decades.



LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	175	71	0
Irrigated–Gravity Flow	60,488	24,479	2
Irrigated–Sprinkler	20,327	8226	1
Rangeland	1,588,153	642,705	45
Riparian	28,665	11,600	1
Rock	12,712	5144	<1
Timberland	979,230	396,282	28
Urban	1882	762	<1
Wilderness	853,220	345,287	24
Total	3,544,851	1,434,556	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	634,857	256,918	18
USDI Bureau of Reclamation	38	15	0
USDA Forest Service	2,532,816	1,024,998	71
USDI National Park Service	7594	3073	<1
Open water	2943	1191	<1
Private	289,718	117,245	8
State of Idaho	76,884	31,114	2
Total	3,544,851	1,434,556	100

Table 11: Challis Volcanics Land Use and Land Ownership

Species of Greatest Conservation Need in the Challis Volcanics

Lampreys

Pacific Lamprey *Lampetra tridentata*^a

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*^a

Inland Redband Trout *Oncorhynchus mykiss gairdneri*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*^a

Sockeye Salmon (Snake River) *Oncorhynchus nerka*^a

Kokanee *Oncorhynchus nerka*
Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*^a
Bull Trout *Salvelinus confluentus*^a
Wood River Sculpin *Cottus leiopomus*^a

Amphibians

Northern Leopard Frog *Rana pipiens*
Idaho Giant Salamander *Dicamptodon aterrimus*

Birds

Northern Pintail *Anas acuta*
Lesser Scaup *Aythya affinis*
Greater Sage-Grouse *Centrocercus urophasianus*
Black-crowned Night-Heron *Nycticorax nycticorax*
Bald Eagle *Haliaeetus leucocephalus*^a
Swainson's Hawk *Buteo swainsoni*
Ferruginous Hawk *Buteo regalis*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Sandhill Crane *Grus canadensis*
Long-billed Curlew *Numenius americanus*
Wilson's Phalarope *Phalaropus tricolor*
California Gull *Larus californicus*
Caspian Tern *Sterna caspia*
Flammulated Owl *Otus flammeolus*
Burrowing Owl *Athene cunicularia*
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*^a
Lewis's Woodpecker *Melanerpes lewis*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*^a
Pygmy Nuthatch *Sitta pygmaea*^a
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*
Black Rosy-Finch *Leucosticte atrata*^a
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Dwarf Shrew *Sorex nanus*

Townsend's Big-eared Bat *Corynorhinus townsendii*
 Pygmy Rabbit *Brachylagus idahoensis*
 Red-tailed Chipmunk *Neotamias ruficaudus*
 Wyoming Ground Squirrel *Spermophilus elegans*
 Great Basin Ground Squirrel *Spermophilus mollis*
 Gray Wolf *Canis lupus*^a
 Kit Fox *Vulpes macrotis*
 Fisher *Martes pennanti*
 Wolverine *Gulo gulo*^a
 Canada Lynx *Lynx canadensis*
 Mountain Goat *Oreamnos americanus*^a

Arachnids

A Cave Obligate Mite *Flabellorhagidia pecki*^a
 A Cave Obligate Harvestman *Speleomaster pecki*^a

Insects

A Mayfly *Centroptilum selanderorum*
 Sagebrush Spur-throat Grasshopper *Melanoplus artemesiae*
 A Spur-throat Grasshopper *Melanoplus digitifer*
 A Grasshopper *Argiacris keithi*^a
 A Grasshopper *Argiacris militaris*^a
 A Stonefly *Bolshecapnia milami*^a
 A Spring Stonefly *Malenka tina*
 A Stonefly *Isoperla bifurcata*^a
 Blind Cave Leiodid Beetle *Glacicavicola bathyscioides*

^a Species for which the Challis Volcanics represents a significant portion of their Idaho range.

Habitats in the Challis Volcanics

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Urban	20	4944	<1
Arableland	182	44,886	1
Non-native Herbaceous	62	15,270	<1
Upland Deciduous Forest	121	29,848	1
Southern Woodland	38	9331	<1

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Dry Conifer Forest	2779	686,642	19
Subalpine Forest	5012	1,238,548	35
Mesic Deciduous Shrubland	319	78,924	2
Southern Xeric Shrubland and Steppe	4695	1,160,031	33
Dry Grassland	98	24,240	1
Subalpine Grassland	226	55,810	2
Alpine	410	101,195	3
Southern Wetland	15	3630	<1
Riparian Woodland	266	65,806	2
Dune, Canyon, and Rockland	38	9323	<1
Total	14,281	3,528,428	100

Table 12: Challis Volcanics Habitats

Priority Habitats and Associated Vertebrate Species in the Challis Volcanics

Dry Conifer Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*

Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Kokanee *Oncorhynchus nerka*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Bull Trout *Salvelinus confluentus*

Amphibians

Idaho Giant Salamander *Dicamptodon aterrimus*

Birds

Bald Eagle *Haliaeetus leucocephalus*

Peregrine Falcon *Falco peregrinus*

Boreal Owl *Aegolius funereus*

White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Subalpine Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*
Sockeye Salmon (Snake River) *Oncorhynchus nerka*
Kokanee *Oncorhynchus nerka*
Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*
Bull Trout *Salvelinus confluentus*

Amphibians

Idaho Giant Salamander *Dicamptodon aterrimus*

Birds

Bald Eagle *Haliaeetus leucocephalus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
Black Swift *Cypseloides niger*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
Black Rosy-Finch *Leucosticte atrata*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Dwarf Shrew *Sorex nanus*
Red-tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Southern Xeric Shrubland and Steppe

Fishes

Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Greater Sage-Grouse *Centrocercus urophasianus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Long-billed Curlew *Numenius americanus*
Burrowing Owl *Athene cunicularia*
Lesser Goldfinch *Carduelis psaltria*

Mammals

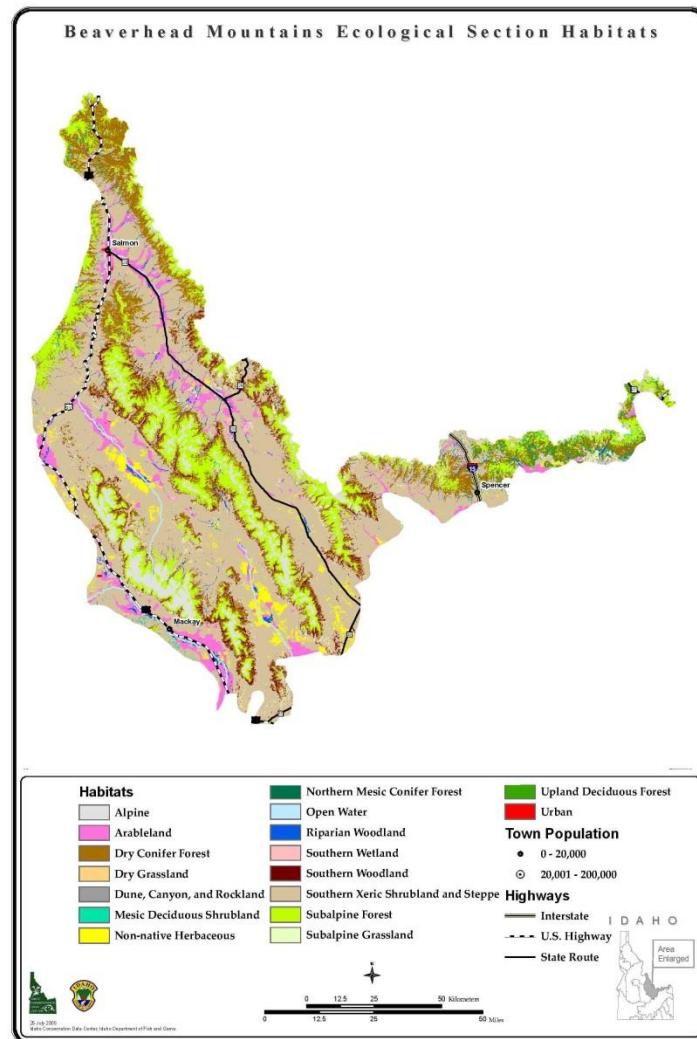
Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Wyoming Ground Squirrel *Spermophilus elegans*
Great Basin Ground Squirrel *Spermophilus mollis*

Beaverhead Mountains Ecological Section

This area includes the highest mountain ranges in the state and landscapes are characterized by sharp alpine ridges, cirques and glacial valleys at higher elevations contrasting with wide, dry valleys, alluvial terraces and flood plains at lower elevations. Intermittent streams are common indicating the arid nature of the area. Lakes occur in glaciated areas at higher elevations. Major rivers include the Lemhi, Beaverhead, Big Lost and Little Lost Rivers. Elevation ranges from 1100–3860 m (3600–12,662 ft). Mountain soils are generally shallow to moderately deep loam and sandy containing rock fragments. Valley soils are moderately deep loam and clay.

Annual precipitation ranges from 25–127 cm (10–50 in) with most precipitation falling as snow in the fall, winter, and spring. Winters are cold and growing season conditions are dry. Soil moisture is not sufficient for tree growth on some south and west aspects below timberline and grasslands often extend from the valley floors to the mountain tops. Average annual temperature is 2–8°C (36–46°F). The growing season ranges from 45–100 days.

Communities occur primarily at lower elevations along rivers and are sparse and small. Livestock grazing is the dominant land use. Timber harvesting, mining, and recreation are also important land uses.



LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	938	2319	<1
Timberland	512,144	1,265,530	31

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Irrigated–Gravity Flow	79,118	195,504	5
Irrigated–Sprinkler	68,807	170,026	4
Rangeland	971,166	2,399,794	59
Riparian	2925	7227	<1
Urban	7311	18,067	<1
Water	589	1454	<1
Total	1,642,998	4,059,921	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	591,144	1,460,742	36
US Department of Energy	18,327	45,287	1
USDA Forest Service	780,309	1,928,178	47
Open water	1493	3689	<1
Private	210,303	519,668	13
State of Idaho	41,667	102,960	3
Total	1,643,243	4,060,525	100

Table 13: Beaverhead Mountains Land Use and Land Ownership

Species of Greatest Conservation Need in the Beaverhead Mountains

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*^a

Sockeye Salmon (Snake River) *Oncorhynchus nerka*^a

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*^a

Bull Trout *Salvelinus confluentus*^a

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Trumpeter Swan *Cygnus buccinator*
Northern Pintail *Anas acuta*
Lesser Scaup *Aythya affinis*
Harlequin Duck *Histrionicus histrionicus*
Hooded Merganser *Lophodytes cucullatus*
Greater Sage-Grouse *Centrocercus urophasianus*
Sharp-tailed Grouse *Tympanuchus phasianellus*
Red-necked Grebe *Podiceps grisegena*
Western Grebe *Aechmophorus occidentalis*
Black-crowned Night-Heron *Nycticorax nycticorax*
White-faced Ibis *Plegadis chihi*
Bald Eagle *Haliaeetus leucocephalus*
Swainson's Hawk *Buteo swainsoni*
Ferruginous Hawk *Buteo regalis*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Sandhill Crane *Grus canadensis*
Long-billed Curlew *Numenius americanus*
Wilson's Phalarope *Phalaropus tricolor*
Franklin's Gull *Larus pipixcan*
California Gull *Larus californicus*
Caspian Tern *Sterna caspia*
Forster's Tern *Sterna forsteri*
Black Tern *Chlidonias niger*
Yellow-billed Cuckoo *Coccyzus americanus*
Flammulated Owl *Otus flammeolus*
Burrowing Owl *Athene cunicularia*
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*
Lewis's Woodpecker *Melanerpes lewis*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*
Black Rosy-Finch *Leucosticte atrata*^a
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Dwarf Shrew *Sorex nanus*
California Myotis *Myotis californicus*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*^a
Red-tailed Chipmunk *Neotamias ruficaudus*
Wyoming Ground Squirrel *Spermophilus elegans*^a
Great Basin Ground Squirrel *Spermophilus mollis*
Idaho Pocket Gopher *Thomomys idahoensis*
Townsend's Pocket Gopher *Thomomys townsendii*
Gray Wolf *Canis lupus*
Kit Fox *Vulpes macrotis*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Bivalves

Western Pearlshell *Margaritifera falcata*^a

Gastropods

Rustic Pondsail *Stagnicola hinkleyi*^a

Insects

A Mayfly *Caurinella idahoensis*
A Mayfly *Ameletus sparsatus*
A Mayfly *Centroptilum selanderorum*
A Mayfly *Cinygma dimicki*^a
Sagebrush Spur-throat Grasshopper *Melanoplus artemesiae*^a
A Spur-throat Grasshopper *Melanoplus idaho*^a
A Spur-throat Grasshopper *Melanoplus lemhensis*^a
A Spur-throat Grasshopper *Melanoplus papyraedus*^a
A Spur-throat Grasshopper *Melanoplus salmonis*^a
A Spur-throat Grasshopper *Melanoplus trigeminus*^a
Idaho Point-headed Grasshopper *Acrolophitus pulchellus*^a
A Grasshopper *Argiacris amissuli*^a
A Grasshopper *Argiacris militaris*
A Grasshopper *Barracris petraea*^a

- A Spring Stonefly *Malenka tina*
A Tiger Beetle *Cicindela plutonica*
An Agapetus Caddisfly *Agapetus montanus*^a
Relict Fritillary *Boloria kriemhild*
Gillette's Checkerspot *Euphydryas gillettii*

^a Species for which the Beaverhead Mountains represents a significant portion of their Idaho range.

Habitats in the Beaverhead Mountains

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Urban	25	6180	<1
Arableland	1013	250,419	6
Non-native Herbaceous	387	95,662	2
Upland Deciduous Forest	174	42,956	1
Southern Woodland	400	98,851	2
Dry Conifer Forest	2280	563,415	14
Subalpine Forest	2342	578,464	14
Mesic Deciduous Shrubland	71	17,427	<1
Southern Xeric Shrubland and Steppe	8192	2,024,317	50
Dry Grassland	39	9696	<1
Subalpine Grassland	372	91,889	2
Alpine	707	174,708	4
Open Water	10	2353	<1
Southern Wetland	80	19,778	<1
Riparian Woodland	327	80,832	2
Total	16,419	4,056,947	100

Table 14: Beaverhead Mountains Habitats

Priority Habitats and Associated Vertebrate Species in the Beaverhead Mountains

Arableland

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Northern Pintail *Anas acuta*

Greater Sage-Grouse *Centrocercus urophasianus*

Black-crowned Night-Heron *Nycticorax nycticorax*

White-faced Ibis *Plegadis chihi*

Black-necked Stilt *Himantopus mexicanus*

Long-billed Curlew *Numenius americanus*

Franklin's Gull *Larus pipixcan*

California Gull *Larus californicus*

Forster's Tern *Sterna forsteri*

Mammals

Wyoming Ground Squirrel *Spermophilus elegans*

Townsend's Pocket Gopher *Thomomys townsendii*

Dry Conifer Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*

Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Bull Trout *Salvelinus confluentus*

Birds

Harlequin Duck *Histrionicus histrionicus*

Bald Eagle *Haliaeetus leucocephalus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Subalpine Forest

Fishes

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Boreal Owl *Aegolius funereus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
Black Rosy-Finch *Leucosticte atrata*

Mammals

Dwarf Shrew *Sorex nanus*
Red-tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Southern Xeric Shrubland and Steppe

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*

Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Bull Trout *Salvelinus confluentus*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Hooded Merganser *Lophodytes cucullatus*

Greater Sage-Grouse *Centrocercus urophasianus*

Sharp-tailed Grouse *Tympanuchus phasianellus*

Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*

Long-billed Curlew *Numenius americanus*

Burrowing Owl *Athene cunicularia*

Grasshopper Sparrow *Ammodramus savannarum*

Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*

Townsend's Big-eared Bat *Corynorhinus townsendii*

Pygmy Rabbit *Brachylagus idahoensis*

Wyoming Ground Squirrel *Spermophilus elegans*

Great Basin Ground Squirrel *Spermophilus mollis*

Idaho Pocket Gopher *Thomomys idahoensis*

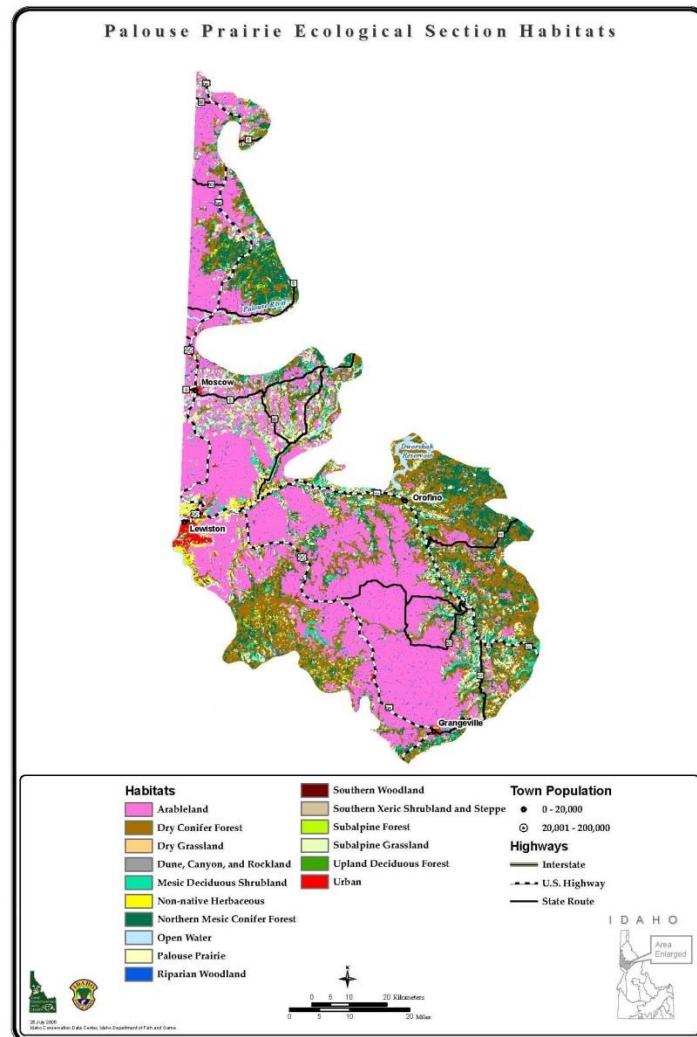
Grizzly or Brown Bear *Ursus arctos*

Columbia Plateau Ecoregion

Palouse Prairie Ecological Section

This section is characterized by dissected loess-covered basalt plains, undulating plateaus, and river breaklands. Elevation ranges from 220–1700 m (720–5700 ft). Soils are generally deep, loamy to silty and have formed in loess, alluvium or glacial outwash. The lower reaches and confluence of the Snake and Clearwater Rivers are major water bodies.

Climate is maritime influenced. Precipitation ranges from 25–76 cm (10–30 in) annually, falling primarily during the fall, winter, and spring. Winter precipitation is mostly snow. Summers are relatively dry. Average annual temperature ranges from 45–54°F (7–12°C). The growing season varies with elevation and lasts 100–170 days.



Population centers include Lewiston, Moscow and small agricultural communities dispersed throughout.

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	654,399	1,617,050	81
Timberland	138,861	343,132	17
Rangeland	5082	12,558	1
Urban	4860	12,008	1
Water	3441	8504	<1
Total	806,644	1,993,252	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	9121	22,539	1
USDI Bureau of Indian Affairs	12,403	30,650	2
USDA Forest Service	10,102	24,963	1
US Department of Defense	585	1446	<1
USDI National Park Service	60	149	<1
Open water	5355	13,234	1
Private	725,922	1,793,785	90
State of Idaho	43,034	106,340	5
Total	806,584	1,993,105	100

Table 15: Palouse Prairie Land Use and Land Ownership

Species of Greatest Conservation Need in the Palouse Prairie

Lampreys

Pacific Lamprey *Lampetra tridentata*^a

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Inland Redband Trout *Oncorhynchus mykiss gairdneri*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*^a

Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*^a

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*^a

Bull Trout *Salvelinus confluentus*

Sand Roller *Percopsis transmontana*^a

Amphibians

Woodhouse's Toad *Bufo woodhousii*

Idaho Giant Salamander *Dicamptodon aterrimus*^a

Coeur d'Alene Salamander *Plethodon idahoensis*^a

Reptiles

Northern Alligator Lizard *Elgaria coerulea*

Ring-necked Snake *Diadophis punctatus*^a

Birds

Northern Pintail *Anas acuta*
Lesser Scaup *Aythya affinis*
Harlequin Duck *Histrionicus histrionicus*
Hooded Merganser *Lophodytes cucullatus*
Mountain Quail *Oreortyx pictus*
Red-necked Grebe *Podiceps grisegena*
Western Grebe *Aechmophorus occidentalis*
Bald Eagle *Haliaeetus leucocephalus*
Swainson's Hawk *Buteo swainsoni*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Long-billed Curlew *Numenius americanus*
California Gull *Larus californicus*
Yellow-billed Cuckoo *Coccyzus americanus*
Flammulated Owl *Otus flammeolus*
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*
Lewis's Woodpecker *Melanerpes lewis*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*
Grasshopper Sparrow *Ammodramus savannarum*
Black Rosy-Finch *Leucosticte atrata*

Mammals

Pygmy Shrew *Sorex hoyi*
California Myotis *Myotis californicus*
Fringed Myotis *Myotis thysanodes*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*

Bivalves

Western Ridged Mussel *Gonidea angulata*

Gastropods

- Fir Pinwheel *Radiodiscus abietum*
- Salmon Coil *Helicodiscus salmonaceus*
- Nimapuna Tigersnail *Anguispira nimapuna*
- Pale Jumping-slug *Hemphillia camelus*
- Lyre Mantleslug *Udosarx lyrata*
- Thinlip Tightcoil *Pristiloma idahoense*
- Dry Land Forestsnail *Allogona ptychophora solida*
- Mission Creek Oregonian *Cryptomastix magnidentata^a*
- An Oregonian (Lower Salmon River) *Cryptomastix mullani latilabris^a*
- An Oregonian (Lower Clearwater River) *Cryptomastix mullani tuckeri*
- An Oregonian (Hells Canyon) *Cryptomastix populi*
- Humped Coin *Polygyrella polygyrella^a*

Insects

- A Mayfly *Paraleptophlebia traverae^a*
- A Mayfly *Parameletus columbiae*
- A Spur-throat Grasshopper *Melanoplus digitifer*
- A Spur-throat Grasshopper *Melanoplus payettei*
- A Stonefly *Capnia lineata^a*
- A Stonefly *Capnia zukeli^a*
- A Stonefly *Perlomyia collaris^a*
- A Stonefly *Soyedina potteri^a*
- A Stonefly *Taenionema umatilla^a*
- Gillette's Checkerspot *Euphydryas gillettii*

^a Species for which the Palouse Prairie represents a significant portion of their Idaho range.

Habitats in the Palouse Prairie

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Urban	65	16,119	1
Arableland	3389	837,538	42
Upland Deciduous Forest	19	4792	<1
Southern Woodland	18	4364	<1
Dry Conifer Forest	1860	459,692	23

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Northern Mesic Conifer Forest	1008	249,131	13
Subalpine Forest	31	7733	<1
Mesic Deciduous Shrubland	352	87,003	4
Dry Grassland	6	1505	<1
Palouse Prairie	799	197,502	10
Subalpine Grassland	67	16,656	1
Open Water	62	15,304	1
Riparian Woodland	193	47,527	2
Dune, Canyon, and Rockland	122	30,098	2
Total	7991	1,974,964	100

Table 16: Palouse Prairie Habitats

Priority Habitats and Associated Vertebrate Species in the Palouse Prairie

Arableland

Lampreys

Pacific Lamprey *Lampræta tridentata*

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*

Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Birds

Northern Pintail *Anas acuta*

Merlin *Falco columbarius*

Upland Sandpiper *Bartramia longicauda*

Long-billed Curlew *Numenius americanus*

California Gull *Larus californicus*

Grasshopper Sparrow *Ammodramus savannarum*

Black Rosy-Finch *Leucosticte atrata*

Dry Conifer Forest

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*

Sockeye Salmon (Snake River) *Oncorhynchus nerka*

Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*

Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Bull Trout *Salvelinus confluentus*

Amphibians

Idaho Giant Salamander *Dicamptodon aterrimus*

Coeur d'Alene Salamander *Plethodon idahoensis*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Harlequin Duck *Histrionicus histrionicus*

Hooded Merganser *Lophodytes cucullatus*

Mountain Quail *Oreortyx pictus*

Bald Eagle *Haliaeetus leucocephalus*

Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*

Boreal Owl *Aegolius funereus*

White-headed Woodpecker *Picoides albolarvatus*

American Three-toed Woodpecker *Picoides dorsalis*

Pygmy Nuthatch *Sitta pygmaea*

Grasshopper Sparrow *Ammodramus savannarum*

Mammals

Pygmy Shrew *Sorex hoyi*

Fringed Myotis *Myotis thysanodes*

Townsend's Big-eared Bat *Corynorhinus townsendii*

Gray Wolf *Canis lupus*

Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*

Northern Mesic Conifer Forest

Fishes

Westslope Cutthroat Trout *Oncorhynchus clarkii lewisi*
Bull Trout *Salvelinus confluentus*

Amphibians

Idaho Giant Salamander *Dicamptodon aterrimus*
Coeur d'Alene Salamander *Plethodon idahoensis*

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
White-headed Woodpecker *Picoides albolarvatus*
American Three-toed Woodpecker *Picoides dorsalis*
Pygmy Nuthatch *Sitta pygmaea*

Mammals

Pygmy Shrew *Sorex hoyi*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Red-tailed Chipmunk *Neotamias ruficaudus*
Gray Wolf *Canis lupus*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*

Palouse Prairie

Lampreys

Pacific Lamprey *Lampetra tridentata*

Fishes

Steelhead (Snake River basin) *Oncorhynchus mykiss gairdneri*
Chinook Salmon (Snake River fall-run) *Oncorhynchus tshawytscha*
Chinook Salmon (Snake River spring/summer-run) *Oncorhynchus tshawytscha*

Bull Trout *Salvelinus confluentus*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Merlin *Falco columbarius*

Long-billed Curlew *Numenius americanus*

California Gull *Larus californicus*

Yellow-billed Cuckoo *Coccyzus americanus*

Grasshopper Sparrow *Ammodramus savannarum*

Black Rosy-Finch *Leucosticte atrata*

Mammals

Fringed Myotis *Myotis thysanodes*

Townsend's Big-eared Bat *Corynorhinus townsendii*

Gray Wolf *Canis lupus*

Riparian Woodland

Amphibians

Coeur d'Alene Salamander *Plethodon idahoensis*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Northern Pintail *Anas acuta*

Harlequin Duck *Histrionicus histrionicus*

Hooded Merganser *Lophodytes cucullatus*

Upland Sandpiper *Bartramia longicauda*

California Gull *Larus californicus*

Mammals

Pygmy Shrew *Sorex hoyi*

Fisher *Martes pennanti*

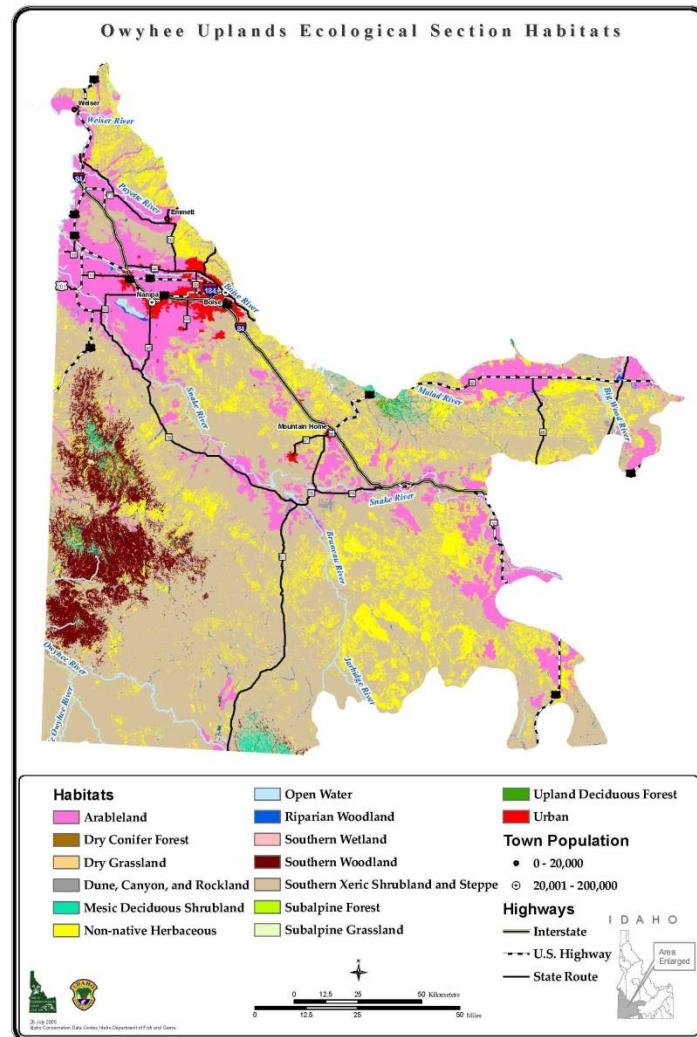
Canada Lynx *Lynx canadensis*

Owyhee Uplands Ecological Section

This area is characterized by deeply dissected canyons formed through the combination of erosion and geologic uplifting. Lava formations are prevalent and are older than those of the Snake River Plain. The Owyhee Mountains are composed primarily of granite and most of the uplands are rhyolites, ash deposits and wind-blown loess. Elevation ranges from 1200–2500 m (4000–8000 ft). The Snake, Owyhee, and Bruneau Rivers are the major water bodies and are among the few perennial water bodies represented. Small streams are typically intermittent and arise from snow accumulation at the higher elevations but some streams are fed by springs. Few small lakes and reservoirs are present.

Precipitation ranges from 20–40 cm (7–15 in) annually. Much precipitation is lost to evaporation during summer months. Average annual temperature ranges from 2–8°C (35–45°F). The growing season varies with elevation, ranging from 120 days to less than 60 days at higher elevations.

Residential communities are small and sparsely distributed in the central and southern parts of the region but the northern part of the section is the urban center of the state containing about half of the state's population. Livestock grazing, dryland and irrigated agriculture and recreation are the major land uses.



LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	78,109	193,010	2
Forest	134,530	332,429	4
Irrigated-Gravity Flow	331,319	818,705	10

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Irrigated—Sprinkler	157,524	389,249	5
Rangeland	2,600,444	6,425,811	75
Riparian	98,874	244,321	3
Rock	1388	3429	<1
Urban	40,278	99,529	1
Water	10,467	25,865	<1
Total	3,452,932	8,532,347	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	2,019,559	4,990,420	58
USDI Bureau of Indian Affairs	58,153	143,699	2
USDI Bureau of Reclamation	75,000	185,327	2
USDA Forest Service	2035	5029	<1
US Department of Defense	45,147	111,560	1
USDI National Park Service	1509	3729	<1
Open water	20,081	49,622	1
Private	1,031,460	2,548,782	30
State of Idaho	199,360	492,627	6
USDI Fish and Wildlife Service	569	1406	<1
Total	3,452,873	8,532,201	100

Table 17: Owyhee Uplands Land Use and Land Ownership

Species of Greatest Conservation Need in the Owyhee Uplands

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*^a

Leopard Dace *Rhinichthys falcatus*^a

Umatilla Dace *Rhinichthys umatilla*^a

Inland Redband Trout *Oncorhynchus mykiss gairdneri*^a

Bull Trout *Salvelinus confluentus*

Shoshone Sculpin *Cottus greenei*^a

Wood River Sculpin *Cottus leiopomus*^a

Amphibians

- Woodhouse's Toad *Bufo woodhousii*
Columbia Spotted Frog (populations south of the Snake River) *Rana luteiventris*
Northern Leopard Frog *Rana pipiens*^a

Reptiles

- Great Basin Collared Lizard *Crotaphytus bicinctores*^a
Ring-necked Snake *Diadophis punctatus*
Long-nosed Snake *Rhinocheilus lecontei*^a
Groundsnake *Sonora semiannulata*^a

Birds

- Northern Pintail *Anas acuta*^a
Lesser Scaup *Aythya affinis*
Hooded Merganser *Lophodytes cucullatus*
Greater Sage-Grouse *Centrocercus urophasianus*^a
Sharp-tailed Grouse *Tympanuchus phasianellus*
Mountain Quail *Oreortyx pictus*
Western Grebe *Aechmophorus occidentalis*
Clark's Grebe *Aechmophorus clarkii*
American White Pelican *Pelecanus erythrorhynchos*^a
Great Egret *Ardea alba*
Snowy Egret *Egretta thula*
Cattle Egret *Bubulcus ibis*
Black-crowned Night-Heron *Nycticorax nycticorax*^a
White-faced Ibis *Plegadis chihi*^a
Bald Eagle *Haliaeetus leucocephalus*
Swainson's Hawk *Buteo swainsoni*
Ferruginous Hawk *Buteo regalis*^a
Merlin *Falco columbarius*^a
Peregrine Falcon *Falco peregrinus*^a
Sandhill Crane *Grus canadensis*
Black-necked Stilt *Himantopus mexicanus*
American Avocet *Recurvirostra americana*^a
Upland Sandpiper *Bartramia longicauda*
Long-billed Curlew *Numenius americanus*^a
Wilson's Phalarope *Phalaropus tricolor*
Franklin's Gull *Larus pipixcan*
California Gull *Larus californicus*^a
Caspian Tern *Sterna caspia*^a

Forster's Tern *Sterna forsteri*
Black Tern *Chlidonias niger*
Burrowing Owl *Athene cunicularia*^a
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*
Lewis's Woodpecker *Melanerpes lewis*
Juniper Titmouse *Baeolophus ridgwayi*
Virginia's Warbler *Vermivora virginiae*^a
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*^a
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Coast Mole *Scapanus orarius*
California Myotis *Myotis californicus*^a
Fringed Myotis *Myotis thysanodes*^a
Spotted Bat *Euderma maculatum*^a
Townsend's Big-eared Bat *Corynorhinus townsendii*^a
Pygmy Rabbit *Brachylagus idahoensis*^a
Southern Idaho Ground Squirrel *Spermophilus brunneus endemicus*^a
Columbia Plateau Ground Squirrel *Spermophilus canus*^a
Wyoming Ground Squirrel *Spermophilus elegans*^a
Great Basin Ground Squirrel *Spermophilus mollis*^a
Townsend's Pocket Gopher *Thomomys townsendii*^a
Little Pocket Mouse *Perognathus longimembris*
Dark Kangaroo Mouse *Microdipodops megacephalus*^a
Piñon Mouse *Peromyscus truei*^a
Gray Wolf *Canis lupus*
Kit Fox *Vulpes macrotis*
Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*^a

Bivalves

California Floater *Anodonta californiensis*^a
Western Ridged Mussel *Gonidea angulata*

Gastropods

Bruneau Hot Springsnail *Pyrgulopsis bruneauensis*^a
A Springsnail *Pyrgulopsis robusta*^a
Bliss Rapids Snail *Taylorconcha serpenticola*^a
Desert Valvata *Valvata utahensis*^a
Rustic Pondsniail *Stagnicola hinkleyi*

Mountain Marshsnail *Stagnicola montanensis*
 Shortface Lanx *Fisherola nuttalli*^a
 Banbury Springs Limpet *Lanx sp.* [undescribed]^a
 Snake River Physa *Physa natricina*^a

Arachnids

A Cave Obligate Harvestman *Speleomaster lexi*

Insects

A Mayfly *Centroptilum selanderorum*
 A Mayfly *Paraleptophlebia jensenii*^a
 A Mayfly *Asioplax edmundsi*^a
 A Stonefly *Utacapnia nedia*^a
 A Tiger Beetle *Cicindela plutonica*^a
 Bruneau Tiger Beetle *Cicindela waynei*^a
 Blind Cave Leiodid Beetle *Glacicavicolabathyscioides*

^a Species for which the Owyhee Uplands represents a significant portion of their Idaho range.

Habitats in the Owyhee Uplands

HABITATS	AREA (km ²)	AREA (ac)	PERCENT
Urban	564	139,421	2
Arableland	5019	1,240,265	15
Non-native Herbaceous	4649	1,148,779	13
Upland Deciduous Forest	42	10,279	<1
Southern Woodland	1843	455,435	5
Dry Conifer Forest	114	28,105	<1
Mesic Deciduous Shrubland	265	65,471	1
Southern Xeric Shrubland and Steppe	21,329	5,270,516	62
Dry Grassland	80	19,682	<1
Open Water	182	44,968	1
Southern Wetland	84	20,866	<1
Riparian Woodland	252	62,288	1

HABITATS	AREA (km ²)	AREA (ac)	PERCENT
Dune, Canyon, and Rockland	45	11,084	<1
Total	34,468	8,517,159	100

Table 18: Owyhee Uplands Habitats

Priority Habitats and Associated Vertebrate Species in the Owyhee Uplands

Arableland

Fishes

- White Sturgeon (Snake River system) *Acipenser transmontanus*
- Leopard Dace *Rhinichthys falcatus*
- Umatilla Dace *Rhinichthys umatilla*
- Inland Redband Trout *Oncorhynchus mykiss gairdneri*
- Shoshone Sculpin *Cottus greenei*
- Wood River Sculpin *Cottus leiopomus*

Amphibians

- Columbia Spotted Frog (populations south of the Snake River) *Rana luteiventris*
- Northern Leopard Frog *Rana pipiens*

Birds

- Northern Pintail *Anas acuta*
- Hooded Merganser *Lophodytes cucullatus*
- Greater Sage-Grouse *Centrocercus urophasianus*
- Sharp-tailed Grouse *Tympanuchus phasianellus*
- Black-crowned Night-Heron *Nycticorax nycticorax*
- White-faced Ibis *Plegadis chihi*
- Merlin *Falco columbarius*
- Long-billed Curlew *Numenius americanus*
- Franklin's Gull *Larus pipixcan*
- California Gull *Larus californicus*
- Burrowing Owl *Athene cunicularia*
- Blue Grosbeak *Passerina caerulea*

Mammals

- Coast Mole *Scapanus orarius*
- Townsend's Pocket Gopher *Thomomys townsendii*

Non-native Herbaceous

Fishes

Bull Trout *Salvelinus confluentus*
Shoshone Sculpin *Cottus greenei*
Wood River Sculpin *Cottus leiopomus*

Amphibians

Northern Leopard Frog *Rana pipiens*

Reptiles

Groundsnake *Sonora semiannulata*

Birds

Sharp-tailed Grouse *Tympanuchus phasianellus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Long-billed Curlew *Numenius americanus*
Burrowing Owl *Athene cunicularia*
Grasshopper Sparrow *Ammodramus savannarum*
Blue Grosbeak *Passerina caerulea*

Mammals

Merriam's Shrew *Sorex merriami*
Coast Mole *Scapanus orarius*
California Myotis *Myotis californicus*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Southern Idaho Ground Squirrel *Spermophilus brunneus endemicus*
Wyoming Ground Squirrel *Spermophilus elegans*
Townsend's Pocket Gopher *Thomomys townsendii*
Dark Kangaroo Mouse *Microdipodops megacephalus*
Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*

Southern Xeric Shrubland and Steppe

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*
Leopard Dace *Rhinichthys falcatus*
Umatilla Dace *Rhinichthys umatilla*
Inland Redband Trout *Oncorhynchus mykiss gairdneri*
Bull Trout *Salvelinus confluentus*
Shoshone Sculpin *Cottus greenei*

Wood River Sculpin *Cottus leiopomus*

Amphibians

Columbia Spotted Frog (populations south of the Snake River) *Rana luteiventris*
Northern Leopard Frog *Rana pipiens*

Reptiles

Great Basin Collared Lizard *Crotaphytus bicinctores*
Ring-necked Snake *Diadophis punctatus*
Long-nosed Snake *Rhinocheilus lecontei*
Groundsnake *Sonora semiannulata*

Birds

Greater Sage-Grouse *Centrocercus urophasianus*
Sharp-tailed Grouse *Tympanuchus phasianellus*
Mountain Quail *Oreortyx pictus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Long-billed Curlew *Numenius americanus*
Burrowing Owl *Athene cunicularia*
Virginia's Warbler *Vermivora virginiae*
Grasshopper Sparrow *Ammodramus savannarum*
Blue Grosbeak *Passerina caerulea*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Coast Mole *Scapanus orarius*
California Myotis *Myotis californicus*
Fringed Myotis *Myotis thysanodes*
Spotted Bat *Euderma maculatum*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Southern Idaho Ground Squirrel *Spermophilus brunneus endemicus*
Columbia Plateau Ground Squirrel *Spermophilus canus*
Wyoming Ground Squirrel *Spermophilus elegans*
Great Basin Ground Squirrel *Spermophilus mollis*
Dark Kangaroo Mouse *Microdipodops megacephalus*
Piñon Mouse *Peromyscus truei*
Gray Wolf *Canis lupus*

Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*

Snake River Basalts

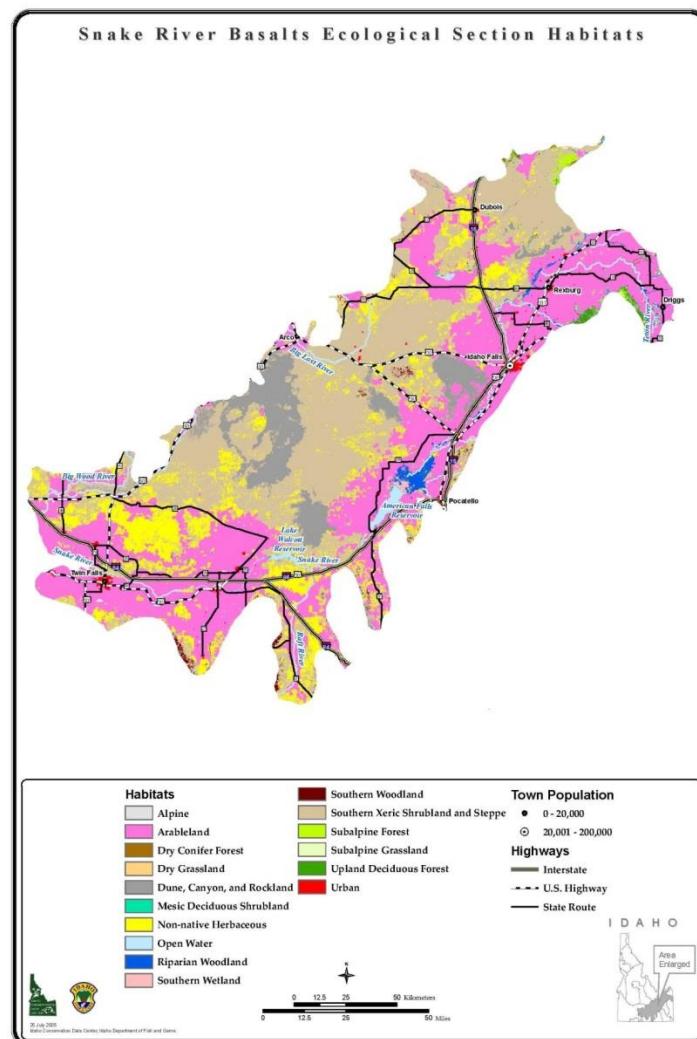
Ecological Section

The landscape comprises extensive plains, isolated buttes and block-faulted mountains. The surface is a lava plateau with a thin, windblown soil layer covering it. Lava flows prevalent throughout the area vary in thickness from less than 30 m (100 ft) to thousands of meters.

Shield volcanoes, cinder cones and lava ridges are common. Craters of the Moon National Monument is an example of the recent volcanic features. Elevation ranges from 900–2000 m (3000–6000 ft). The Snake River, American Falls Reservoir, Lake Walcott and Mud Lake are major water bodies. Few other perennial surface water bodies are present.

Precipitation ranges from 12–30 cm (5–12 in) annually and is evenly distributed throughout the fall, winter, and spring but is low in the summer. Precipitation during summer months is generally lost to evaporation. Average annual temperature ranges from 4–13°C (40–58°F). The growing season ranges from 60–165 days decreasing from west to east and with elevation. Enough precipitation falls in some foothills for dry farming.

Population centers include Idaho Falls and Pocatello and small communities are dispersed primarily along the Snake River corridor. Livestock grazing and dryland, and irrigated farming are the major land uses. Recreation is also important.



LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	190,303	470,247	6
Timberland	39,429	97,432	1

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Irrigated–Gravity Flow	517,322	1,278,325	16
Irrigated–Sprinkler	581,625	1,437,220	18
Rangeland	1,572,615	3,886,001	49
Riparian	46,064	113,825	1
Rock	220,470	544,790	7
Urban	38,406	94,904	1
Water	25,940	64,098	1
Total	3,232,174	7,986,843	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	1,196,424	2,956,416	37
USDI Bureau of Indian Affairs	66,977	165,503	2
USDI Bureau of Reclamation	16,844	41,623	1
US Department of Energy	213,052	526,461	7
USDA Forest Service	32,890	81,272	1
US Department of Defense	574	1419	<1
USDI National Park Service	18,430	45,542	1
Open water	36,841	91,037	1
Private	1,502,210	3,712,026	46
State of Idaho	138,180	341,450	4
USDI Fish and Wildlife Service	9751	24,095	<1
Total	3,232,173	7,986,843	100

Table 19: Snake River Basalts Land Use and Land Ownership

Species of Greatest Conservation Need in the Snake River Basalts

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*

Northern Leatherside Chub *Lepidomeda copei*

Bluehead Sucker *Catostomus discobolus*

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri^a*

Inland Redband Trout *Oncorhynchus mykiss gairdneri*
Bull Trout *Salvelinus confluentus*
Shoshone Sculpin *Cottus greenei*^a
Wood River Sculpin *Cottus leiopomus*

Amphibians

Northern Leopard Frog *Rana pipiens*^a

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Trumpeter Swan *Cygnus buccinator*^a
Northern Pintail *Anas acuta*^a
Lesser Scaup *Aythya affinis*
Harlequin Duck *Histrionicus histrionicus*
Hooded Merganser *Lophodytes cucullatus*^a
Greater Sage-Grouse *Centrocercus urophasianus*^a
Sharp-tailed Grouse *Tympanuchus phasianellus*^a
Western Grebe *Aechmophorus occidentalis*^a
Clark's Grebe *Aechmophorus clarkii*^a
American White Pelican *Pelecanus erythrorhynchos*^a
Great Egret *Ardea alba*
Snowy Egret *Egretta thula*^a
Cattle Egret *Bubulcus ibis*
Black-crowned Night-Heron *Nycticorax nycticorax*^a
White-faced Ibis *Plegadis chihi*^a
Bald Eagle *Haliaeetus leucocephalus*
Swainson's Hawk *Buteo swainsoni*
Ferruginous Hawk *Buteo regalis*
Merlin *Falco columbarius*^a
Peregrine Falcon *Falco peregrinus*^a
Sandhill Crane *Grus canadensis*
Black-necked Stilt *Himantopus mexicanus*^a
American Avocet *Recurvirostra americana*^a
Long-billed Curlew *Numenius americanus*^a
Wilson's Phalarope *Phalaropus tricolor*^a
Franklin's Gull *Larus pipixcan*^a
California Gull *Larus californicus*^a
Caspian Tern *Sterna caspia*^a

Forster's Tern *Sterna forsteri*^a
Black Tern *Chlidonias niger*^a
Yellow-billed Cuckoo *Coccyzus americanus*^a
Burrowing Owl *Athene cunicularia*^a
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*
Lewis's Woodpecker *Melanerpes lewis*
American Three-toed Woodpecker *Picoides dorsalis*
Pinyon Jay *Gymnorhinus cyanocephalus*
Juniper Titmouse *Baeolophus ridgwayi*
Virginia's Warbler *Vermivora virginiae*
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*^a
Blue Grosbeak *Passerina caerulea*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Dwarf Shrew *Sorex nanus*
California Myotis *Myotis californicus*
Spotted Bat *Euderma maculatum*
Townsend's Big-eared Bat *Corynorhinus townsendii*^a
Pygmy Rabbit *Brachylagus idahoensis*^a
Cliff Chipmunk *Neotamias dorsalis*
Wyoming Ground Squirrel *Spermophilus elegans*^a
Great Basin Ground Squirrel *Spermophilus mollis*^a
Idaho Pocket Gopher *Thomomys idahoensis*^a
Townsend's Pocket Gopher *Thomomys townsendii*^a
Little Pocket Mouse *Perognathus longimembris*^a
Gray Wolf *Canis lupus*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*

Bivalves

California Floater *Anodonta californiensis*
Western Ridged Mussel *Gonidea angulata*^a
Western Pearlshell *Margaritifera falcata*

Gastropods

Bliss Rapids Snail *Taylorconcha serpenticola*
Desert Valvata *Valvata utahensis*^a
Mountain Marshsnail *Stagnicola montanensis*
Shortface Lanx *Fisherola nuttalli*
Snake River Physa *Physa natricina*

Arachnids

A Cave Obligate Harvestman *Speleomaster lexi*^a

Insects

A Mayfly *Centroptilum selanderorum*^a
A Mayfly *Parameletus columbiae*
A Spur-throat Grasshopper *Melanoplus digitifer*
Idaho Point-headed Grasshopper *Acrolophitus pulchellus*
A Spring Stonefly *Malenka tina*
St. Anthony Dune Tiger Beetle *Cicindela arenicola*^a
A Tiger Beetle *Cicindela plutonica*
Blind Cave Leioidid Beetle *Glacicavicolabathyscioides*^a

^a Vertebrate species (except fishes) for which the Snake River Basalts represents a significant portion of their range.

Habitats in the Snake River Basalts

HABITATS	AREA (km ²)	AREA (ac)	PERCENT
Urban	293	72,610	1
Arableland	12,372	3,057,126	38
Non-native Herbaceous	3799	939,030	12
Upland Deciduous Forest	117	29,037	<1
Southern Woodland	139	34,320	<1
Dry Conifer Forest	47	11,475	<1
Subalpine Forest	84	20,755	<1
Mesic Deciduous Shrubland	43	10,629	<1
Southern Xeric Shrubland and Steppe	12,361	3,054,141	38

HABITATS	AREA (km ²)	AREA (ac)	PERCENT
Subalpine Grassland	32	7940	<1
Open Water	246	60,884	1
Southern Wetland	124	30,523	<1
Riparian Woodland	362	89,629	1
Dune, Canyon, and Rockland	2287	565,213	7
Total	32,306	7,983,312	100

Table 20: Snake River Basalts Habitat

Priority Habitats and Associated Species in the Snake River Basalts

Arableland

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*
 Northern Leatherside Chub *Lepidomeda copei*
 Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*
 Inland Redband Trout *Oncorhynchus mykiss gairdneri*
 Bull Trout *Salvelinus confluentus*
 Shoshone Sculpin *Cottus greenei*
 Wood River Sculpin *Cottus leiopomus*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Northern Pintail *Anas acuta*
 Greater Sage-Grouse *Centrocercus urophasianus*
 Sharp-tailed Grouse *Tympanuchus phasianellus*
 Black-crowned Night-Heron *Nycticorax nycticorax*
 White-faced Ibis *Plegadis chihi*
 Merlin *Falco columbarius*
 Long-billed Curlew *Numenius americanus*
 Franklin's Gull *Larus pipixcan*
 California Gull *Larus californicus*
 Burrowing Owl *Athene cunicularia*
 Blue Grosbeak *Passerina caerulea*

Mammals

Wyoming Ground Squirrel *Spermophilus elegans*
Townsend's Pocket Gopher *Thomomys townsendii*

Non-native Herbaceous

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*
Northern Leatherside Chub *Lepidomeda copei*
Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*
Inland Redband Trout *Oncorhynchus mykiss gairdneri*
Bull Trout *Salvelinus confluentus*
Shoshone Sculpin *Cottus greenei*
Wood River Sculpin *Cottus leiopomus*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Sharp-tailed Grouse *Tympanuchus phasianellus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Long-billed Curlew *Numenius americanus*
Burrowing Owl *Athene cunicularia*
Juniper Titmouse *Baeolophus ridgwayi*
Grasshopper Sparrow *Ammodramus savannarum*

Mammals

Merriam's Shrew *Sorex merriami*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Wyoming Ground Squirrel *Spermophilus elegans*
Idaho Pocket Gopher *Thomomys idahoensis*
Townsend's Pocket Gopher *Thomomys townsendii*
Little Pocket Mouse *Perognathus longimembris*
Gray Wolf *Canis lupus*
Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*

Southern Xeric Shrubland and Steppe

Fishes

White Sturgeon (Snake River system) *Acipenser transmontanus*
Northern Leatherside Chub *Lepidomeda copei*
Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*
Inland Redband Trout *Oncorhynchus mykiss gairdneri*
Bull Trout *Salvelinus confluentus*
Shoshone Sculpin *Cottus greenei*
Wood River Sculpin *Cottus leiopomus*

Amphibians

Northern Leopard Frog *Rana pipiens*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Greater Sage-Grouse *Centrocercus urophasianus*
Sharp-tailed Grouse *Tympanuchus phasianellus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Long-billed Curlew *Numenius americanus*
Burrowing Owl *Athene cunicularia*
Pinyon Jay *Gymnorhinus cyanocephalus*
Juniper Titmouse *Baeolophus ridgwayi*
Virginia's Warbler *Vermivora virginiae*
Grasshopper Sparrow *Ammodramus savannarum*
Blue Grosbeak *Passerina caerulea*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Spotted Bat *Euderma maculatum*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Wyoming Ground Squirrel *Spermophilus elegans*
Great Basin Ground Squirrel *Spermophilus mollis*
Idaho Pocket Gopher *Thomomys idahoensis*
Little Pocket Mouse *Perognathus longimembris*
Grizzly or Brown Bear *Ursus arctos*
Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*

Dune, Canyon, and Rockland

Birds

Peregrine Falcon *Falco peregrinus*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*

Northwestern Basin and Range Ecological Section

This area is characterized by north-south trending mountain ranges and volcanic plateaus interspersed with broad, nearly level basins and valleys. The elevational range is 1200–2200 m (4000–7200 ft).

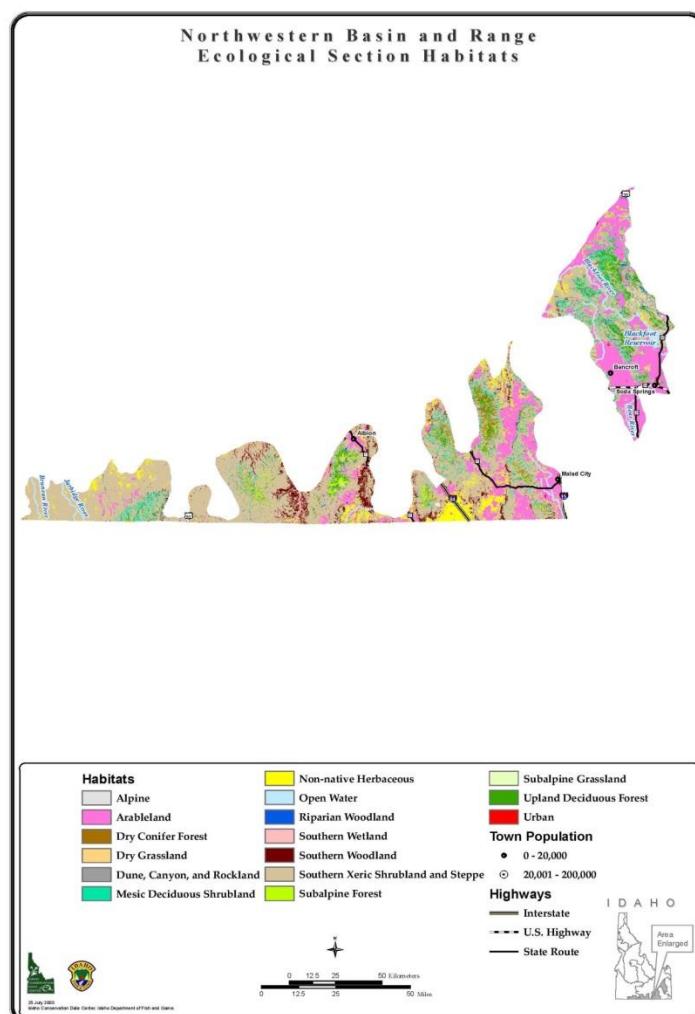
Large alluvial fans have developed at the mouths of most canyons, and playas and marshes occur in valleys and basins. Water is scarce except at higher elevations. Few streams are present, and groundwater is a major water source for agricultural and residential uses.

Summers are hot and dry, and winters are cold and dry.

Precipitation ranges from 10–79 cm (4–30 in) annually. Precipitation is evenly distributed throughout fall, winter, and spring. Average annual temperature is 5–10°C (41–50°F).

The growing season ranges from 30–140 days.

Residential communities are small and sparsely distributed. Livestock production is the primary land use. Mining occurs in some areas.



LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	327,240	808,625	22

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Timberland	212,263	524,511	14
Irrigated–Gravity Flow	38,687	95,596	3
Irrigated–Sprinkler	71,394	176,417	5
Rangeland	796,819	1,968,975	54
Riparian	14,603	36,084	1
Urban	8037	19,859	1
Water	7526	18,596	1
Total	1,476,567	3,648,662	100
LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	455,420	1,125,363	31
USDI Bureau of Indian Affairs	113,588	280,681	8
USDA Forest Service	227,170	561,346	15
US Department of Defense	189	468	<1
Open water	9175	22,672	1
Private	577,226	1,426,352	39
State of Idaho	93,870	231,957	6
Total	1,476,639	3,648,840	100

Table 21: Northwestern Basin and Range Land Use and Land Ownership

Species of Greatest Conservation Need in the Northwestern Basin and Range

Fishes

- Leopard Dace *Rhinichthys falcatus*
- Umatilla Dace *Rhinichthys umatilla*
- Northern Leatherside Chub *Lepidomeda copei*^a
- Bluehead Sucker *Catostomus discobolus*^a
- Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*
- Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*^a
- Inland Redband Trout *Oncorhynchus mykiss gairdneri*
- Bull Trout *Salvelinus confluentus*

Amphibians

Columbia Spotted Frog (populations south of the Snake River) *Rana luteiventris*
Northern Leopard Frog *Rana pipiens*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Trumpeter Swan *Cygnus buccinator*

Northern Pintail *Anas acuta*

Lesser Scaup *Aythya affinis*

Harlequin Duck *Histrionicus histrionicus*

Hooded Merganser *Lophodytes cucullatus*

Greater Sage-Grouse *Centrocercus urophasianus*^a

Sharp-tailed Grouse *Tympanuchus phasianellus*^a

Western Grebe *Aechmophorus occidentalis*

Clark's Grebe *Aechmophorus clarkii*

American White Pelican *Pelecanus erythrorhynchos*^a

Great Egret *Ardea alba*

Snowy Egret *Egretta thula*^a

Cattle Egret *Bubulcus ibis*

Black-crowned Night-Heron *Nycticorax nycticorax*^a

Bald Eagle *Haliaeetus leucocephalus*

Swainson's Hawk *Buteo swainsoni*

Ferruginous Hawk *Buteo regalis*^a

Merlin *Falco columbarius*^a

Peregrine Falcon *Falco peregrinus*

Sandhill Crane *Grus canadensis*

Black-necked Stilt *Himantopus mexicanus*

American Avocet *Recurvirostra americana*

Long-billed Curlew *Numenius americanus*^a

Wilson's Phalarope *Phalaropus tricolor*

Franklin's Gull *Larus pipixcan*

California Gull *Larus californicus*^a

Caspian Tern *Sterna caspia*

Yellow-billed Cuckoo *Coccyzus americanus*

Flammulated Owl *Otus flammeolus*

Burrowing Owl *Athene cunicularia*^a

Short-eared Owl *Asio flammeus*

Boreal Owl *Aegolius funereus*

Lewis's Woodpecker *Melanerpes lewis*

Pinyon Jay *Gymnorhinus cyanocephalus*^a
Juniper Titmouse *Baeolophus ridgwayi*^a
Virginia's Warbler *Vermivora virginiae*^a
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*
Blue Grosbeak *Passerina caerulea*
South Hills Crossbill *Loxia* sp. [undescribed]^a
Lesser Goldfinch *Carduelis psaltria*^a

Mammals

Merriam's Shrew *Sorex merriami*^a
California Myotis *Myotis californicus*
Spotted Bat *Euderma maculatum*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Cliff Chipmunk *Neotamias dorsalis*
Wyoming Ground Squirrel *Spermophilus elegans*
Great Basin Ground Squirrel *Spermophilus mollis*^a
Idaho Pocket Gopher *Thomomys idahoensis*
Townsend's Pocket Gopher *Thomomys townsendii*
Little Pocket Mouse *Perognathus longimembris*
Piñon Mouse *Peromyscus truei*^a
Kit Fox *Vulpes macrotis*
Wolverine *Gulo gulo*
Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*

Gastropods

Green River Pebblesnail *Fluminicola coloradoensis*^a
Bear Lake Springsnail *Pyrgulopsis pilsbryana*
Mountain Marshsnail *Stagnicola montanensis*

Insects

A Mayfly *Centroptilum selanderorum*

^a Species for which the Northwestern Basin and Range represents a significant portion of their Idaho range.

Habitats in the Northwestern Basin and Range

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Urban	35	8749	<1
Arableland	3070	758,716	21
Non-native Herbaceous	785	193,976	5
Upland Deciduous Forest	556	137,324	4
Southern Woodland	554	136,804	4
Dry Conifer Forest	184	45,320	1
Subalpine Forest	177	43,809	1
Mesic Deciduous Shrubland	666	164,559	5
Southern Xeric Shrubland and Steppe	8367	2,067,387	57
Dry Grassland	24	5853	<1
Subalpine Grassland	56	14,039	<1
Open Water	81	19,976	1
Southern Wetland	29	7123	<1
Riparian Woodland	169	41,437	1
Total	14,753	3,645,072	100

Table 22: Northwestern Basin and Range Habitats

Priority Habitats and Associated Vertebrate Species in the Northwestern Basin and Range

Arableland

Fishes

Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Northern Pintail *Anas acuta*

Greater Sage-Grouse *Centrocercus urophasianus*
Sharp-tailed Grouse *Tympanuchus phasianellus*
Black-crowned Night-Heron *Nycticorax nycticorax*
White-faced Ibis *Plegadis chihi*
Merlin *Falco columbarius*
Black-necked Stilt *Himantopus mexicanus*
Long-billed Curlew *Numenius americanus*
Franklin's Gull *Larus pipixcan*
California Gull *Larus californicus*
Burrowing Owl *Athene cunicularia*
Blue Grosbeak *Passerina caerulea*

Mammals

Wyoming Ground Squirrel *Spermophilus elegans*
Townsend's Pocket Gopher *Thomomys townsendii*

Non-native Herbaceous

Birds

Northern Pintail *Anas acuta*
Peregrine Falcon *Falco peregrinus*
Wilson's Phalarope *Phalaropus tricolor*
Grasshopper Sparrow *Ammodramus savannarum*
Blue Grosbeak *Passerina caerulea*

Mammals

Merriam's Shrew *Sorex merriami*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Idaho Pocket Gopher *Thomomys idahoensis*
Townsend's Pocket Gopher *Thomomys townsendii*
Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*

Mesic Deciduous Shrubland

Amphibians

Columbia Spotted Frog (populations south of the Snake River) *Rana luteiventris*

Birds

Blue Grosbeak *Passerina caerulea*

Mammals

Pygmy Rabbit *Brachylagus idahoensis*

Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*

Southern Xeric Shrubland and Steppe

Fishes

Bluehead Sucker *Catostomus discobolus*

Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Inland Redband Trout *Oncorhynchus mykiss gairdneri*

Bull Trout *Salvelinus confluentus*

Amphibians

Columbia Spotted Frog (populations south of the Snake River) *Rana luteiventris*

Northern Leopard Frog *Rana pipiens*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Greater Sage-Grouse *Centrocercus urophasianus*

Sharp-tailed Grouse *Tympanuchus phasianellus*

Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*

Long-billed Curlew *Numenius americanus*

Yellow-billed Cuckoo *Coccyzus americanus*

Burrowing Owl *Athene cunicularia*

Boreal Owl *Aegolius funereus*

Pinyon Jay *Gymnorhinus cyanocephalus*

Juniper Titmouse *Baeolophus ridgwayi*

Virginia's Warbler *Vermivora virginiae*

Grasshopper Sparrow *Ammodramus savannarum*

Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*

Spotted Bat *Euderma maculatum*

Townsend's Big-eared Bat *Corynorhinus townsendii*

Pygmy Rabbit *Brachylagus idahoensis*

Wyoming Ground Squirrel *Spermophilus elegans*
 Great Basin Ground Squirrel *Spermophilus mollis*
 Idaho Pocket Gopher *Thomomys idahoensis*
 Little Pocket Mouse *Perognathus longimembris*
 Piñon Mouse *Peromyscus truei*
 Kit Fox *Vulpes macrotis*
 Bighorn Sheep (populations south of the Snake River) *Ovis canadensis*

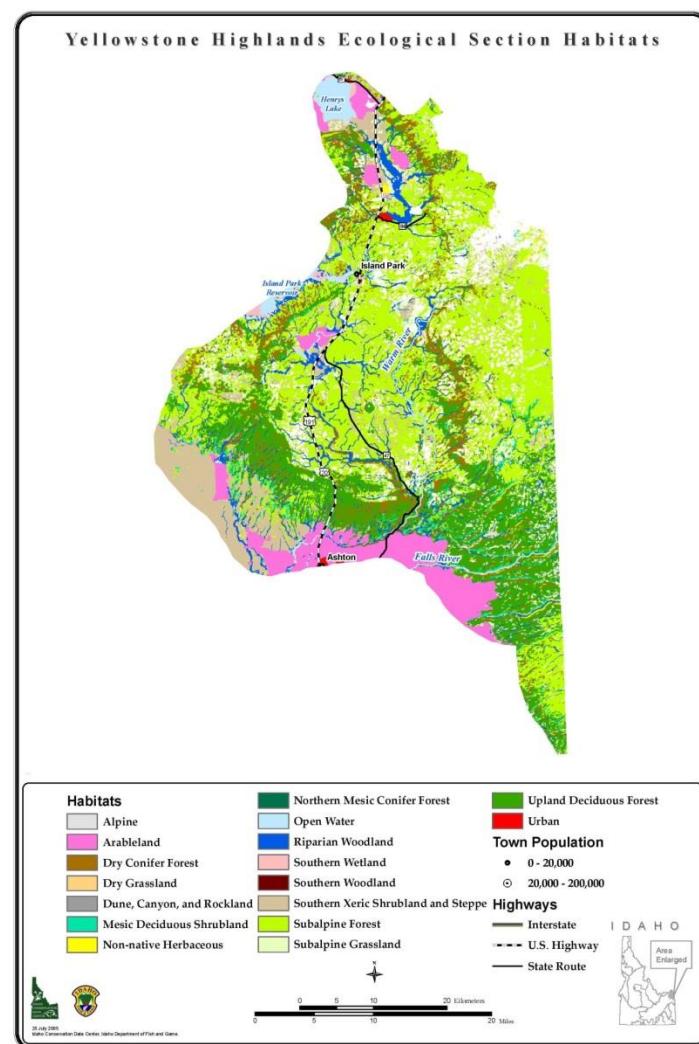
Utah-Wyoming Rock Mountain Ecoregion

Yellowstone Highlands Ecological Section

This area comprises the western margins of the Yellowstone Plateau. Much of this area has been glaciated and moraines are common.

Perennial streams, wet meadows and lakes are numerous and prevalent. Major water bodies include Henrys Lake, Henrys Fork of the Snake River and Island Park Reservoir. Elevation ranges from 1500–2500 m (5100–8500 ft). Soils in the basins and valleys are generally coarse and shallow to moderately deep.

Precipitation ranges from 51–114 cm (20–45 in) annually with most occurring during the fall, winter and spring. Precipitation occurs mostly as snow above 1800 m (6000 ft) and mostly as rain during the growing season. Climate is cold, moist continental. Temperature averages 2–8°C (35–47°F). The growing season lasts 25–120 days with a shorter growing season at higher elevations.



Communities are small and primarily scattered along the Henrys Fork. Recreation, timber harvest and livestock grazing are the dominant land uses. A small amount of forage and other crops are grown in some valleys.

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	2269	5607	1
Timberland	208,335	514,805	77
Irrigated-Gravity Flow	3687	9112	1
Irrigated-Sprinkler	10,827	26,755	4
Rangeland	34,583	85,455	13
Riparian	5598	13,834	2
Urban	190	469	<1
Water	4943	12,215	2
Total	270,433	668,252	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	7996	19,758	3
USDI Bureau of Reclamation	1693	4183	1
USDA Forest Service	178,850	441,946	66
USDI National Park Service	14,597	36,070	5
Open water	5815	14,370	2
Private	46,626	115,216	17
State of Idaho	15,018	37,110	6
Total	270,595	668,651	100

Table 23: Yellowstone Highlands Land Use and Ownership

Species of Greatest Conservation Need in the Yellowstone Highlands

Fishes

Bluehead Sucker *Catostomus discobolus*^a

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Trumpeter Swan *Cygnus buccinator*^a
Northern Pintail *Anas acuta*
Lesser Scaup *Aythya affinis*
Harlequin Duck *Histrionicus histrionicus*
Hooded Merganser *Lophodytes cucullatus*
Greater Sage-Grouse *Centrocercus urophasianus*
Sharp-tailed Grouse *Tympanuchus phasianellus*
Common Loon *Gavia immer*
Red-necked Grebe *Podiceps grisegena*
Western Grebe *Aechmophorus occidentalis*
American White Pelican *Pelecanus erythrorhynchos*
Snowy Egret *Egretta thula*
Black-crowned Night-Heron *Nycticorax nycticorax*
White-faced Ibis *Plegadis chihi*
Bald Eagle *Haliaeetus leucocephalus*
Swainson's Hawk *Buteo swainsoni*
Ferruginous Hawk *Buteo regalis*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Sandhill Crane *Grus canadensis*
American Avocet *Recurvirostra americana*
Long-billed Curlew *Numenius americanus*
Wilson's Phalarope *Phalaropus tricolor*
Franklin's Gull *Larus pipixcan*
California Gull *Larus californicus*
Caspian Tern *Sterna caspia*
Forster's Tern *Sterna forsteri*
Black Tern *Chlidonias niger*
Yellow-billed Cuckoo *Coccyzus americanus*
Flammulated Owl *Otus flammeolus*
Burrowing Owl *Athene cunicularia*
Short-eared Owl *Asio flammeus*
Boreal Owl *Aegolius funereus*
Lewis's Woodpecker *Melanerpes lewis*
American Three-toed Woodpecker *Picoides dorsalis*
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*

Mammals

Merriam's Shrew *Sorex merriami*
 Dwarf Shrew *Sorex nanus*
 Townsend's Big-eared Bat *Corynorhinus townsendii*
 Pygmy Rabbit *Brachylagus idahoensis*
 Wyoming Ground Squirrel *Spermophilus elegans*
 Great Basin Ground Squirrel *Spermophilus mollis*
 Idaho Pocket Gopher *Thomomys idahoensis*
 Gray Wolf *Canis lupus*
 Grizzly or Brown Bear *Ursus arctos*^a
 Fisher *Martes pennanti*
 Wolverine *Gulo gulo*
 Canada Lynx *Lynx canadensis*
 Mountain Goat *Oreamnos americanus*

Gastropods

Rustic Pondsail *Stagnicola hinkleyi*^a

Insects

A Mayfly *Ameletus sparsatus*
 Gillette's Checkerspot *Euphydryas gillettii*

^a Vertebrate species for which the Yellowstone Highlands represents a significant portion of their range.

Habitats in the Yellowstone Highlands

Habitat	Area (km ²)	Area (ac)	Percent
Urban	6	1380	<1
Arableland	191	47,075	8
Non-native Herbaceous	12	2897	<1
Upland Deciduous Forest	479	118,349	19
Dry Conifer Forest	196	48,531	8
Subalpine Forest	985	243,543	39
Mesic Deciduous Shrubland	50	12,476	2
Southern Xeric Shrubland and Steppe	269	66,451	11
Dry Grassland	5	1146	<1

Habitat	Area (km ²)	Area (ac)	Percent
Subalpine Grassland	86	21,345	3
Alpine	25	6102	1
Open Water	42	10,481	2
Southern Wetland	8	2087	<1
Riparian Woodland	170	41,913	7
Total	2524	623,776	100

Table 24: Yellowstone Highlands Habitats

Priority Habitats and Associated Vertebrate Species in the Yellowstone Highlands

Arableland

Fishes

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Birds

Trumpeter Swan *Cygnus buccinator*

Northern Pintail *Anas acuta*

Greater Sage-Grouse *Centrocercus urophasianus*

Sharp-tailed Grouse *Tympanuchus phasianellus*

Red-necked Grebe *Podiceps grisegena*

Black-crowned Night-Heron *Nycticorax nycticorax*

Long-billed Curlew *Numenius americanus*

Mammals

Wyoming Ground Squirrel *Spermophilus elegans*

Upland Deciduous Forest

Fishes

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Harlequin Duck *Histrionicus histrionicus*

Bald Eagle *Haliaeetus leucocephalus*

Peregrine Falcon *Falco peregrinus*
Yellow-billed Cuckoo *Coccyzus americanus*
Boreal Owl *Aegolius funereus*
American Three-toed Woodpecker *Picoides dorsalis*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*

Dry Conifer Forest

Birds

Harlequin Duck *Histrionicus histrionicus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Subalpine Forest

Fishes

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
American Three-toed Woodpecker *Picoides dorsalis*

Mammals

Dwarf Shrew *Sorex nanus*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Grizzly or Brown Bear *Ursus arctos*
Fisher *Martes pennanti*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Riparian Woodland

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

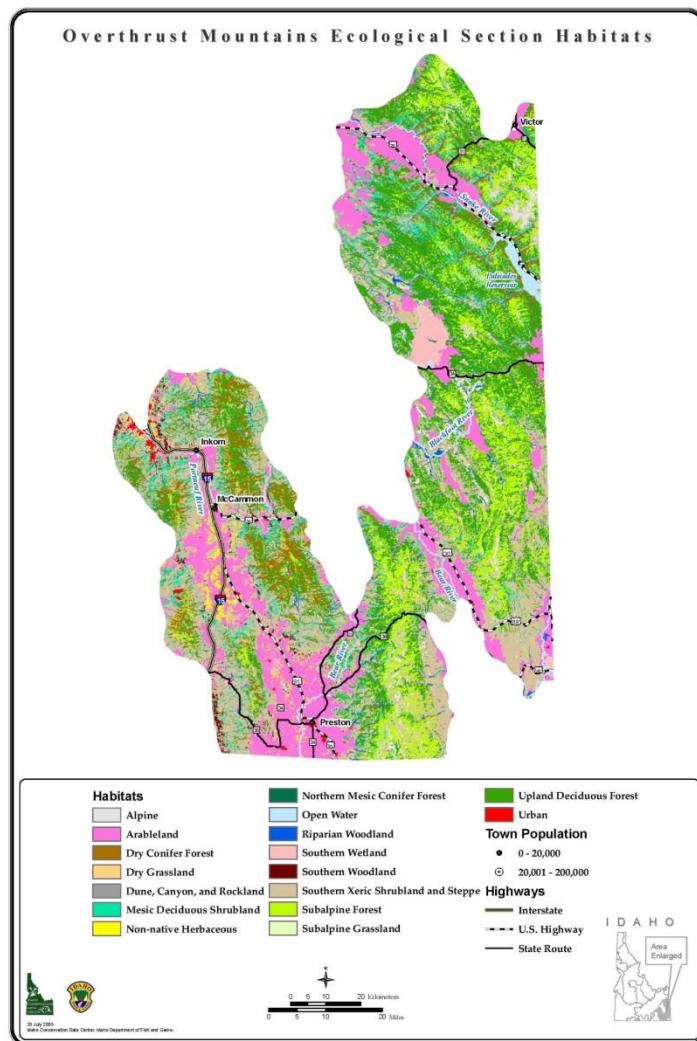
Trumpeter Swan *Cygnus buccinator*
Northern Pintail *Anas acuta*
Hooded Merganser *Lophodytes cucullatus*
Sharp-tailed Grouse *Tympanuchus phasianellus*
Snowy Egret *Egretta thula*
Black-crowned Night-Heron *Nycticorax nycticorax*
Bald Eagle *Haliaeetus leucocephalus*
California Gull *Larus californicus*
Yellow-billed Cuckoo *Coccyzus americanus*

Mammals

Dwarf Shrew *Sorex nanus*
Canada Lynx *Lynx canadensis*

Overthrust Mountains Ecological Section

Landscapes are characterized by minor mountain ranges and broad valleys. Mountain ranges include the Webster, Aspen, Portneuf, Bannock and Bear River Ranges. Linear valleys and ridges are the products of thrust faults. Rivers are of two major drainage basins flowing either into the Snake River or into the Great Salt Lake in Utah. Important rivers include the South Fork of the Snake River, the Portneuf River and the Bear River. A few lakes and wet meadows are associated with higher elevations above 1500 m (5000 ft). Large water bodies include Bear Lake and Palisades Reservoir. Elevation ranges from 1300–3000 m (4400 to 9900 ft). Sedimentary rock formations, such as limestones, siltstone, sandstones and shales are predominant.



Climate is influenced by prevailing winds and the general north–south orientation of the mountain ranges. Precipitation ranges from 40–100 cm (16–40 in) annually with most occurring during the fall, winter and spring. Precipitation occurs mostly as snow above 1800 m (6000 ft). The majority of precipitation falls as snow in the winter. Summers are dry. Annual average temperature is 2–10°C (35–50°F). The growing season lasts 80–120 days.

Population centers are primarily along the Portneuf and Bear Rivers and include Pocatello and Preston. Approximately 70% of the land is forested, and timber harvest, livestock grazing and recreation are major land uses. Phosphate mining is an important land use in some areas.

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	195,170	482,274	15
Timberland	558,545	1,380,188	42
Irrigated–Gravity Flow	62,632	154,766	5
Irrigated–Sprinkler	67,962	167,937	5
Rangeland	399,212	986,470	30
Riparian	23,317	57,617	23
Urban	8233	20,344	1
Water	6331	15,644	<1
Total	1,321,401	3,265,241	122

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	72,134	178,247	5
USDI Bureau of Indian Affairs	25,535	63,099	2
USDI Bureau of Reclamation	5936	14,668	<1
USDA Forest Service	597,264	1,475,866	45
Open water	8853	21,877	1
Private	541,495	1,338,058	41
State of Idaho	65,489	161,826	5
USDI Fish and Wildlife Service	4871	12,037	<1
Total	1,321,578	3,265,677	100

Table 25: Overthrust Mountains Land Use and Land Ownership

Species of Greatest Conservation Need in the Overthrust Mountains

Fishes

- Northern Leatherside Chub *Lepidomeda copei*^a
- Bluehead Sucker *Catostomus discobolus*^a
- Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*^a
- Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*^a

Amphibians

Northern Leopard Frog *Rana pipiens*^a

Reptiles

Ring-necked Snake *Diadophis punctatus*^a

Birds

Trumpeter Swan *Cygnus buccinator*^a

Northern Pintail *Anas acuta*

Lesser Scaup *Aythya affinis*

Harlequin Duck *Histrionicus histrionicus*

Hooded Merganser *Lophodytes cucullatus*

Greater Sage-Grouse *Centrocercus urophasianus*

Sharp-tailed Grouse *Tympanuchus phasianellus*^a

Red-necked Grebe *Podiceps grisegena*

Western Grebe *Aechmophorus occidentalis*

Clark's Grebe *Aechmophorus clarkii*

American White Pelican *Pelecanus erythrorhynchos*

Great Egret *Ardea alba*

Snowy Egret *Egretta thula*^a

Cattle Egret *Bubulcus ibis*^a

Black-crowned Night-Heron *Nycticorax nycticorax*^a

White-faced Ibis *Plegadis chihi*^a

Bald Eagle *Haliaeetus leucocephalus*

Swainson's Hawk *Buteo swainsoni*

Ferruginous Hawk *Buteo regalis*

Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*

Sandhill Crane *Grus canadensis*^a

Black-necked Stilt *Himantopus mexicanus*^a

American Avocet *Recurvirostra americana*^a

Long-billed Curlew *Numenius americanus*

Wilson's Phalarope *Phalaropus tricolor*^a

Franklin's Gull *Larus pipixcan*^a

California Gull *Larus californicus*

Caspian Tern *Sterna caspia*

Forster's Tern *Sterna forsteri*^a

Black Tern *Chlidonias niger*^a

Flammulated Owl *Otus flammeolus*

Burrowing Owl *Athene cunicularia*

Short-eared Owl *Asio flammeus*

Boreal Owl *Aegolius funereus*

Lewis's Woodpecker *Melanerpes lewis*
American Three-toed Woodpecker *Picoides dorsalis*
Pinyon Jay *Gymnorhinus cyanocephalus*^a
Juniper Titmouse *Baeolophus ridgwayi*^a
Virginia's Warbler *Vermivora virginiae*
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*
Blue Grosbeak *Passerina caerulea*
Black Rosy-Finch *Leucosticte atrata*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Dwarf Shrew *Sorex nanus*
California Myotis *Myotis californicus*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Cliff Chipmunk *Neotamias dorsalis*
Uinta Chipmunk *Neotamias umbrinus*
Wyoming Ground Squirrel *Spermophilus elegans*
Great Basin Ground Squirrel *Spermophilus mollis*
Rock Squirrel *Spermophilus variegatus*^a
Idaho Pocket Gopher *Thomomys idahoensis*^a
Townsend's Pocket Gopher *Thomomys townsendii*
Gray Wolf *Canis lupus*
Wolverine *Gulo gulo*
Canada Lynx *Lynx canadensis*
Mountain Goat *Oreamnos americanus*

Bivalves

Western Pearlshell *Margaritifera falcata*

Gastropods
Bear Lake Springsnail *Pyrgulopsis pilsbryana*
Mountain Marshsnail *Stagnicola montanensis*
Cloaked Physa *Physa megalochlamys*^a
Thin-ribbed Mountainsnail *Oreohelix tenuistriata*^a

Insects

A Mayfly *Ameletus sparsatus*
A Spur-throat Grasshopper *Melanoplus digitifer*

A Stonefly *Sweltsa gaufini*^a
A Stonefly *Pictetiella expansa*
Relict Fritillary *Boloria kriemhild*^a
Gillette's Checkerspot *Euphydryas gillettii*

^a Vertebrate species for which the Overthrust Mountains represents a significant portion of their range.

Habitats in the Overthrust Mountains

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Urban	62	15,377	<1
Arableland	2284	564,455	17
Non-native Herbaceous	150	37,122	1
Upland Deciduous Forest	2768	684,154	21
Southern Woodland	102	25,205	1
Dry Conifer Forest	619	152,981	5
Subalpine Forest	1379	340,712	10
Mesic Deciduous Shrubland	832	205,704	6
Southern Xeric Shrubland and Steppe	4059	1,002,941	31
Dry Grassland	8	1870	<1
Subalpine Grassland	300	74,144	2
Alpine	49	12,012	<1
Open Water	88	21,669	1
Southern Wetland	151	37,283	1
Riparian Woodland	332	82,168	3
Dune, Canyon, and Rockland	7	1835	<1
Total	13,190	3,259,632	100

Table 26: Overthrust Mountains Habitats

Priority Habitats and Associated Vertebrate Species in the Overthrust Mountains

Arableland

Fishes

Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Northern Pintail *Anas acuta*

Greater Sage-Grouse *Centrocercus urophasianus*

Sharp-tailed Grouse *Tympanuchus phasianellus*

Black-crowned Night-Heron *Nycticorax nycticorax*

White-faced Ibis *Plegadis chihi*

Merlin *Falco columbarius*

Long-billed Curlew *Numenius americanus*

Franklin's Gull *Larus pipixcan*

California Gull *Larus californicus*

Burrowing Owl *Athene cunicularia*

Mammals

Wyoming Ground Squirrel *Spermophilus elegans*

Townsend's Pocket Gopher *Thomomys townsendii*

Upland Deciduous Forest

Fishes

Northern Leatherside Chub *Lepidomeda copei*

Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*

Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Harlequin Duck *Histrionicus histrionicus*

Sharp-tailed Grouse *Tympanuchus phasianellus*

Bald Eagle *Haliaeetus leucocephalus*

Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*

Boreal Owl *Aegolius funereus*

American Three-toed Woodpecker *Picoides dorsalis*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*
Rock Squirrel *Spermophilus variegatus*
Wolverine *Gulo gulo*

Subalpine Forest

Birds

Harlequin Duck *Histrionicus histrionicus*
Bald Eagle *Haliaeetus leucocephalus*
Peregrine Falcon *Falco peregrinus*
Boreal Owl *Aegolius funereus*
American Three-toed Woodpecker *Picoides dorsalis*

Mammals

Dwarf Shrew *Sorex nanus*
Wolverine *Gulo gulo*
Mountain Goat *Oreamnos americanus*

Southern Xeric Shrubland and Steppe

Fishes

Northern Leatherside Chub *Lepidomeda copei*
Bluehead Sucker *Catostomus discobolus*
Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*
Yellowstone Cutthroat Trout *Oncorhynchus clarkii bouvieri*

Amphibians

Northern Leopard Frog *Rana pipiens*

Reptiles

Ring-necked Snake *Diadophis punctatus*

Birds

Greater Sage-Grouse *Centrocercus urophasianus*
Sharp-tailed Grouse *Tympanuchus phasianellus*
Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*
Long-billed Curlew *Numenius americanus*
Yellow-billed Cuckoo *Coccyzus americanus*
Burrowing Owl *Athene cunicularia*
Pinyon Jay *Gymnorhinus cyanocephalus*
Juniper Titmouse *Baeolophus ridgwayi*
Virginia's Warbler *Vermivora virginiae*
Grasshopper Sparrow *Ammodramus savannarum*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Pygmy Rabbit *Brachylagus idahoensis*
Wyoming Ground Squirrel *Spermophilus elegans*
Great Basin Ground Squirrel *Spermophilus mollis*
Rock Squirrel *Spermophilus variegatus*
Idaho Pocket Gopher *Thomomys idahoensis*

Southern Wetland

Birds

Trumpeter Swan *Cygnus buccinator*
Northern Pintail *Anas acuta*
Hooded Merganser *Lophodytes cucullatus*
Western Grebe *Aechmophorus occidentalis*
Clark's Grebe *Aechmophorus clarkii*
American White Pelican *Pelecanus erythrorhynchos*
Snowy Egret *Egretta thula*
Cattle Egret *Bubulcus ibis*
Black-crowned Night-Heron *Nycticorax nycticorax*
White-faced Ibis *Plegadis chihi*
Black-necked Stilt *Himantopus mexicanus*
American Avocet *Recurvirostra americana*
Wilson's Phalarope *Phalaropus tricolor*
Franklin's Gull *Larus pipixcan*
California Gull *Larus californicus*
Forster's Tern *Sterna forsteri*
Black Tern *Chlidonias niger*

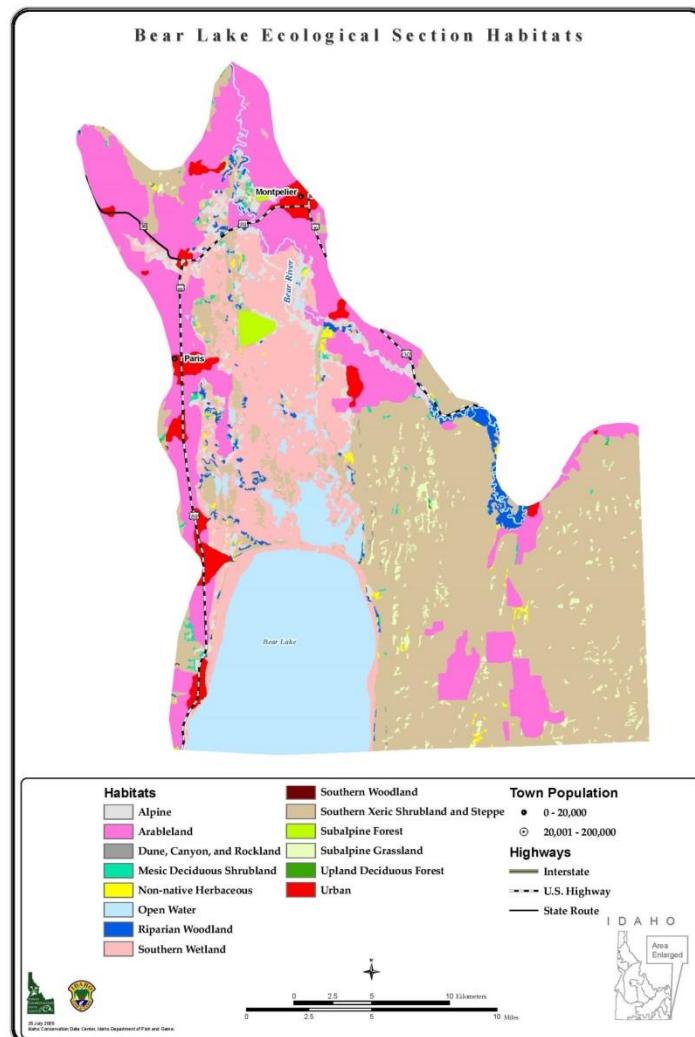
Wyoming Basin Ecoregion

Bear Lake Ecological Section

This section comprises Bear Lake, the Bear Lake Valley, dry hillsides and ridges to the east of the lake. Bear Lake drains through Bear River, which is eventually a tributary of Great Salt Lake. Elevations range from 1800–2400 m (5900–7800 ft).

Precipitation ranges from 40–100 cm (16 to 40 in) annually with most occurring during the fall, winter and spring. Precipitation occurs mostly as snow above 1800 m (6000 ft). Summers are dry with low humidity. Temperature averages 1–9°C (34–48°F). The growing season ranges from 50–180 days.

Livestock grazing, agriculture, and recreation are the primary land uses.



LAND USE	AREA (ha)	AREA (ac)	PERCENT
Dryland Agriculture	76,733	189,611	9
Irrigated–Gravity Flow	128,657	317,919	14
Irrigated–Sprinkler	162,328	401,121	18
Rangeland	305,917	755,937	34
Riparian	79,679	196,891	9

LAND USE	AREA (ha)	AREA (ac)	PERCENT
Urban	3470	8575	<1
Water	136,001	336,066	15
Total	892,785	2,206,120	100

LAND OWNERSHIP	AREA (ha)	AREA (ac)	PERCENT
USDI Bureau of Land Management	130,630	322,794	15
Open water	141,340	349,260	16
Private	533,317	1,317,856	60
State of Idaho	18,557	45,855	2
USDI Fish and Wildlife Service	68,694	169,747	8
Total	892,539	2,205,511	100

Table 27: Bear Lake Land Use and Land Ownership

Species of Greatest Conservation Need in the Bear Lake

Fishes

Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*^a
 Bear Lake Whitefish *Prosopium abyssicola*^a
 Bonneville Cisco *Prosopium gemmifer*^a
 Bonneville Whitefish *Prosopium spilonotus*^a
 Bear Lake Sculpin *Cottus extensus*^a

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Trumpeter Swan *Cygnus buccinator*^a
 Northern Pintail *Anas acuta*
 Greater Sage-Grouse *Centrocercus urophasianus*
 Sharp-tailed Grouse *Tympanuchus phasianellus*
 Western Grebe *Aechmophorus occidentalis*^a
 Clark's Grebe *Aechmophorus clarkii*^a
 American White Pelican *Pelecanus erythrorhynchos*^a
 Great Egret *Ardea alba*
 Snowy Egret *Egretta thula*^a

Cattle Egret *Bubulcus ibis*
Black-crowned Night-Heron *Nycticorax nycticorax*
White-faced Ibis *Plegadis chihi*^a
Bald Eagle *Haliaeetus leucocephalus*
Swainson's Hawk *Buteo swainsoni*
Ferruginous Hawk *Buteo regalis*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*
Sandhill Crane *Grus canadensis*
Black-necked Stilt *Himantopus mexicanus*^a
American Avocet *Recurvirostra americana*^a
Long-billed Curlew *Numenius americanus*
Wilson's Phalarope *Phalaropus tricolor*^a
Franklin's Gull *Larus pipixcan*^a
California Gull *Larus californicus*
Caspian Tern *Sterna caspia*^a
Forster's Tern *Sterna forsteri*^a
Black Tern *Chlidonias niger*^a
Burrowing Owl *Athene cunicularia*
Short-eared Owl *Asio flammeus*
Virginia's Warbler *Vermivora virginiae*
Brewer's Sparrow *Spizella breweri*
Grasshopper Sparrow *Ammodramus savannarum*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*
Townsend's Big-eared Bat *Corynorhinus townsendii*
Wyoming Ground Squirrel *Spermophilus elegans*
Rock Squirrel *Spermophilus variegatus*
Idaho Pocket Gopher *Thomomys idahoensis*

Gastropods

Green River Pebblesnail *Fluminicola coloradoensis*
Bear Lake Springsnail *Pyrgulopsis pilsbryana*^a

^a Species for which the Bear Lake represents a significant portion of their Idaho range.

Habitats in the Bear Lake

HABITAT	AREA (km ²)	AREA (ac)	PERCENT
Urban	22	5592	2
Arableland	182	44,984	21
Non-native Herbaceous	8	2023	1
Southern Xeric Shrubland and Steppe	355	87,672	40
Subalpine Grassland	16	3782	2
Alpine	22	5464	2
Open Water	146	36,147	16
Southern Wetland	123	30,377	14
Riparian Woodland	13	3342	1
Total	887	219,383	100

Table 28: Bear Lake Habitats

Priority Habitats and Associated Vertebrate Species in the Bear Lake

Arableland

Fishes

Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Northern Pintail *Anas acuta*

Greater Sage-Grouse *Centrocercus urophasianus*

Sharp-tailed Grouse *Tympanuchus phasianellus*

Black-crowned Night-Heron *Nycticorax nycticorax*

White-faced Ibis *Plegadis chihi*

Merlin *Falco columbarius*

Long-billed Curlew *Numenius americanus*

Franklin's Gull *Larus pipixcan*

California Gull *Larus californicus*

Burrowing Owl *Athene cunicularia*

Mammals

Wyoming Ground Squirrel *Spermophilus elegans*

Southern Xeric Shrubland and Steppe

Fishes

Bear Lake Whitefish *Prosopium abyssicola*

Bonneville Cisco *Prosopium gemmifer*

Bonneville Whitefish *Prosopium spilonotus*

Bear Lake Sculpin *Cottus extensus*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Greater Sage-Grouse *Centrocercus urophasianus*

Sharp-tailed Grouse *Tympanuchus phasianellus*

Merlin *Falco columbarius*

Peregrine Falcon *Falco peregrinus*

Long-billed Curlew *Numenius americanus*

Burrowing Owl *Athene cunicularia*

Grasshopper Sparrow *Ammodramus savannarum*

Lesser Goldfinch *Carduelis psaltria*

Mammals

Merriam's Shrew *Sorex merriami*

Townsend's Big-eared Bat *Corynorhinus townsendii*

Wyoming Ground Squirrel *Spermophilus elegans*

Rock Squirrel *Spermophilus variegatus*

Idaho Pocket Gopher *Thomomys idahoensis*

Open Water

Fishes

Bear Lake Whitefish *Prosopium abyssicola*

Bonneville Cisco *Prosopium gemmifer*

Bonneville Whitefish *Prosopium spilonotus*

Bear Lake Sculpin *Cottus extensus*

Birds

Trumpeter Swan *Cygnus buccinator*
Northern Pintail *Anas acuta*
Western Grebe *Aechmophorus occidentalis*
Clark's Grebe *Aechmophorus clarkii*
American White Pelican *Pelecanus erythrorhynchos*
Snowy Egret *Egretta thula*
Black-crowned Night-Heron *Nycticorax nycticorax*
White-faced Ibis *Plegadis chihi*
Black-necked Stilt *Himantopus mexicanus*
American Avocet *Recurvirostra americana*
Wilson's Phalarope *Phalaropus tricolor*
Franklin's Gull *Larus pipixcan*
California Gull *Larus californicus*
Caspian Tern *Sterna caspia*
Forster's Tern *Sterna forsteri*
Black Tern *Chlidonias niger*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*

Southern Wetland

Fishes

Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*

Amphibians

Northern Leopard Frog *Rana pipiens*

Birds

Trumpeter Swan *Cygnus buccinator*
Northern Pintail *Anas acuta*
Western Grebe *Aechmophorus occidentalis*
Clark's Grebe *Aechmophorus clarkii*
American White Pelican *Pelecanus erythrorhynchos*
Snowy Egret *Egretta thula*
Black-crowned Night-Heron *Nycticorax nycticorax*
White-faced Ibis *Plegadis chihi*
Bald Eagle *Haliaeetus leucocephalus*
Merlin *Falco columbarius*
Peregrine Falcon *Falco peregrinus*

Black-necked Stilt *Himantopus mexicanus*
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Caspian Tern *Sterna caspia*
Forster's Tern *Sterna forsteri*
Black Tern *Chlidonias niger*
Lesser Goldfinch *Carduelis psaltria*

Mammals

Townsend's Big-eared Bat *Corynorhinus townsendii*

Author:

Material for this chapter comes from Idaho's Comprehensive Wildlife Conservation Strategy (CWCS).

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